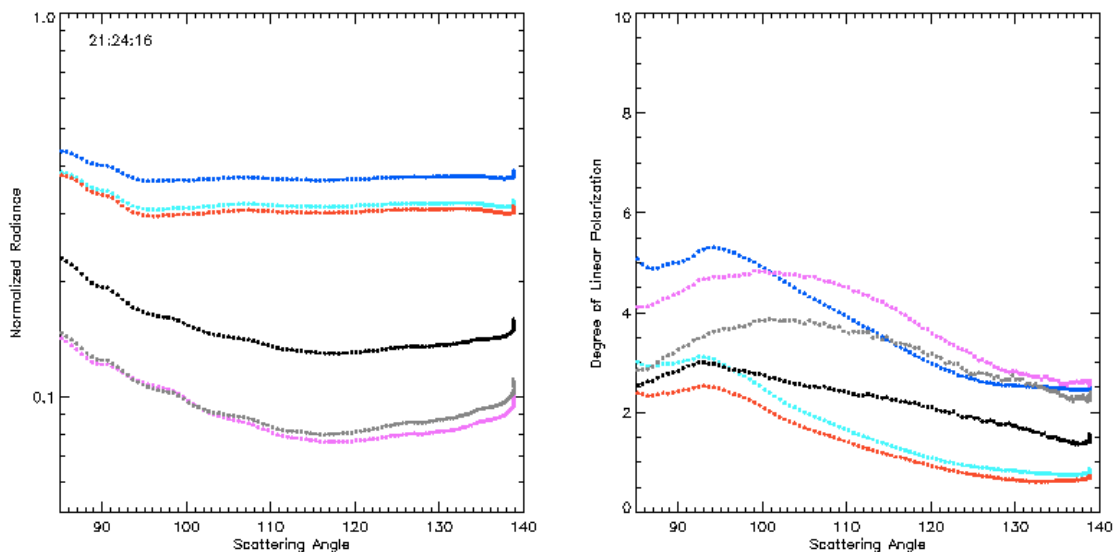


RSP Quick Look Data

In the following figures the flight tracks of the Proteus aircraft are shown with the location at which an RSP file (###) started overlaid on the flight track. These figures of the flight tracks are followed by plots of the nadir radiance and polarized radiance observed by the RSP at 410, 470, 555, 670, 865, 960, 1590, 1880 and 2250 (blue, mauve, turquoise, green, red, orange, fuschia, grey and black respectively) from the given files. The normalized radiance is shown in the top panel and the normalized polarized radiance is shown in the middle panel. The image at the bottom of each RSP data file figure is constructed from overlapping strip images which are sequentially cross correlated with one another. This is used as a check on aircraft attitude and v/h among inhomogeneous clouds. The real and imaginary values of refractive index for water and ice for the SWIR bands are:

	NRIce	NIIce	NRWat	NIWat
1.58886	1.2895	0.000318	1.3182	0.000104
1.88447	1.2788	0.000317	1.3101	0.000880
2.26438	1.2562	0.000254	1.2875	0.000419

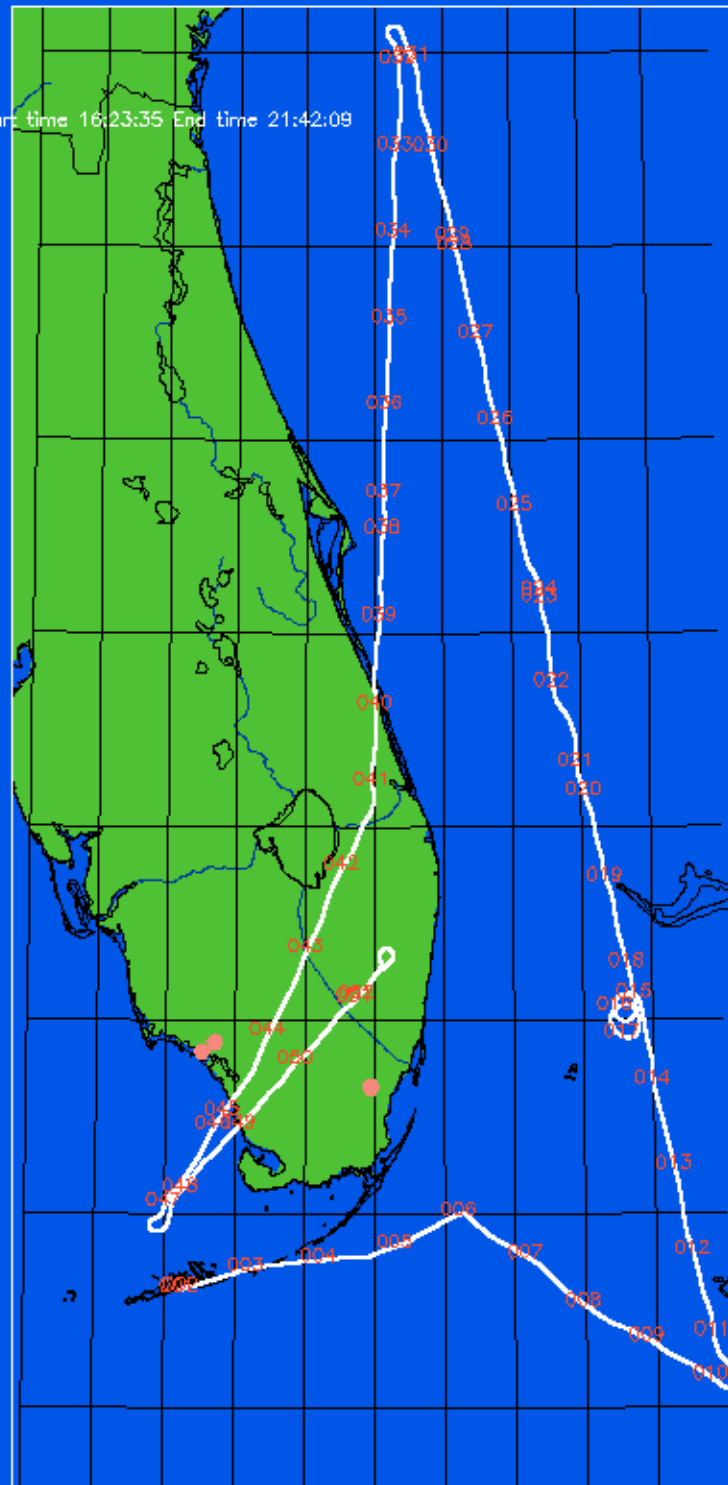
This means that typically for ice clouds the 1590 reflectance is lower than the 2250 nm reflectance. The RSP instrument scans along track and so for each nadir pixel shown in these figures there are also measurements over a view angle range of $+50^\circ$ to -70° (positive is in the direction of aircraft motion) every 0.8° .

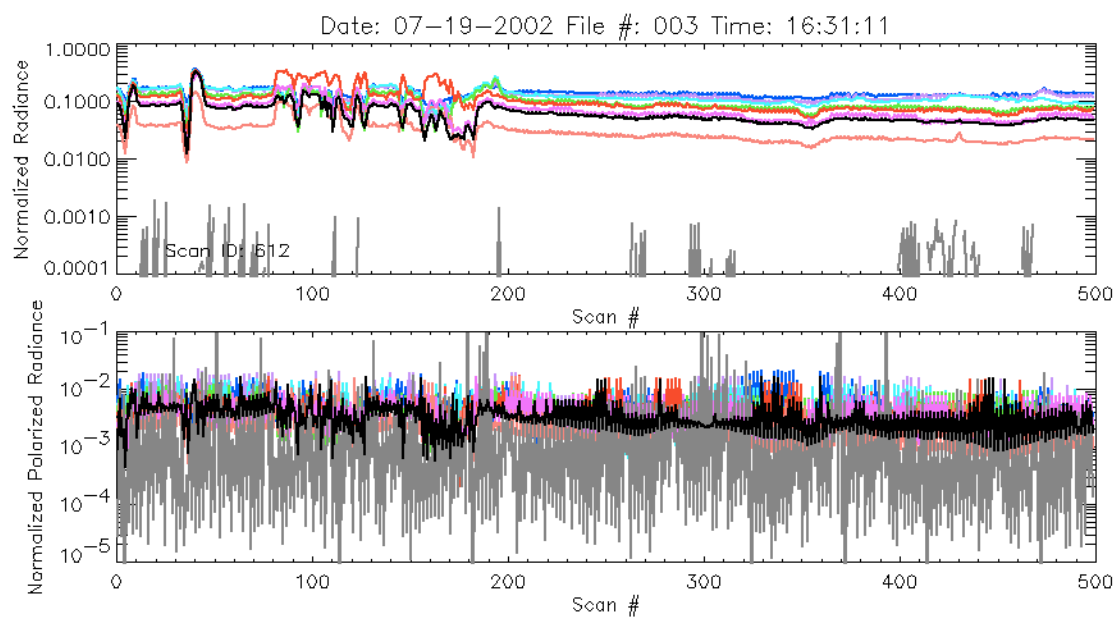
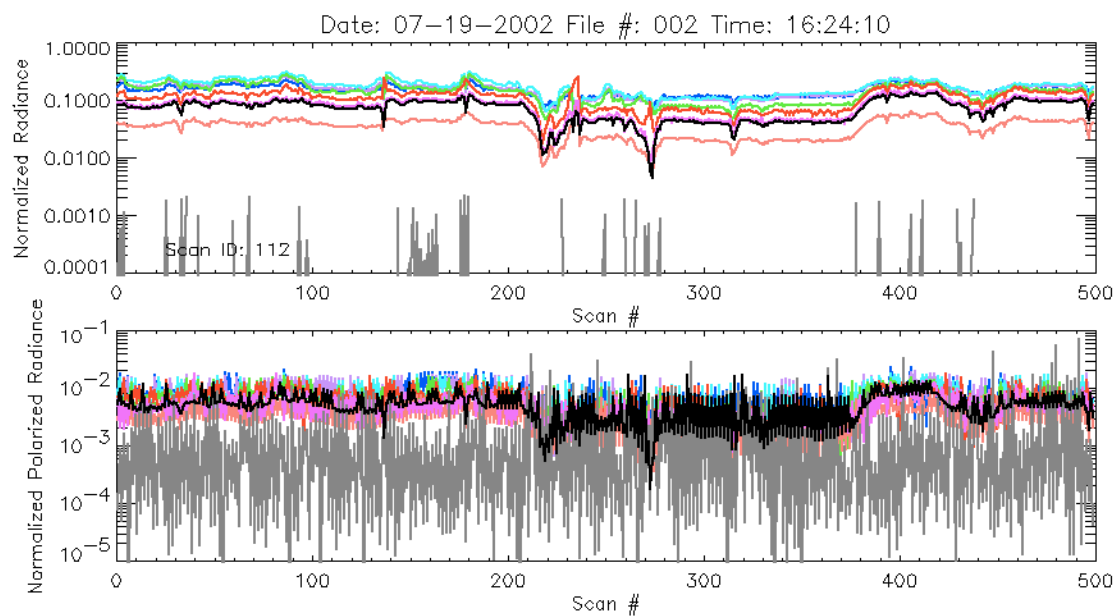


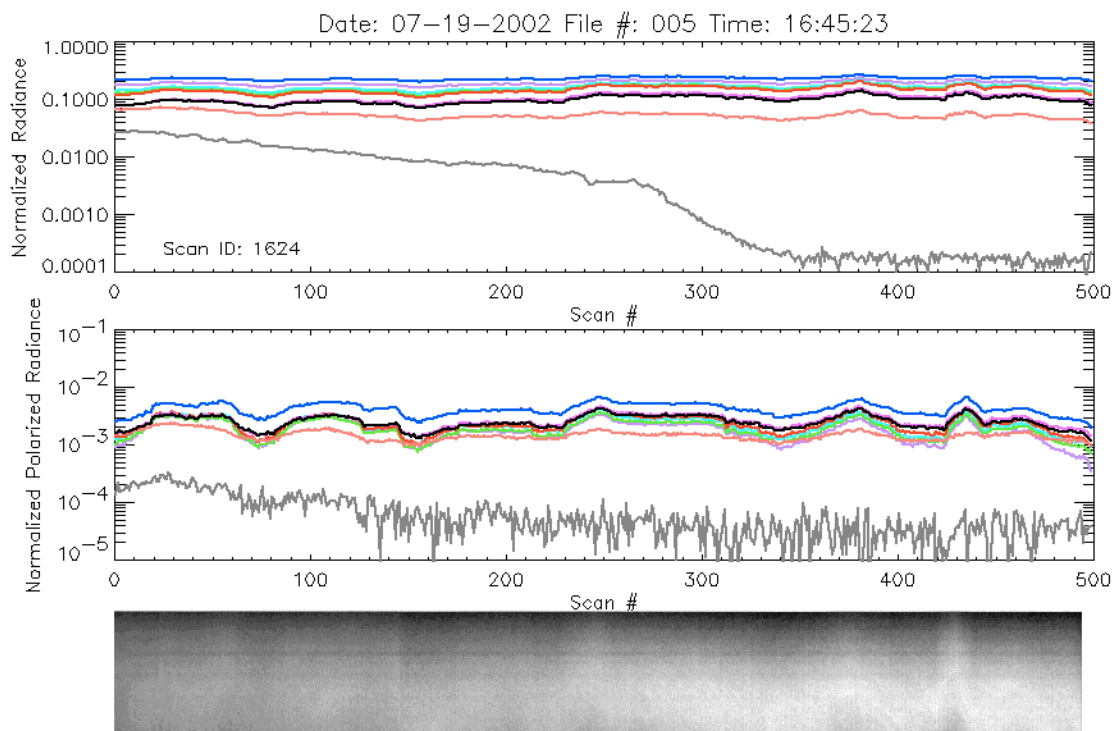
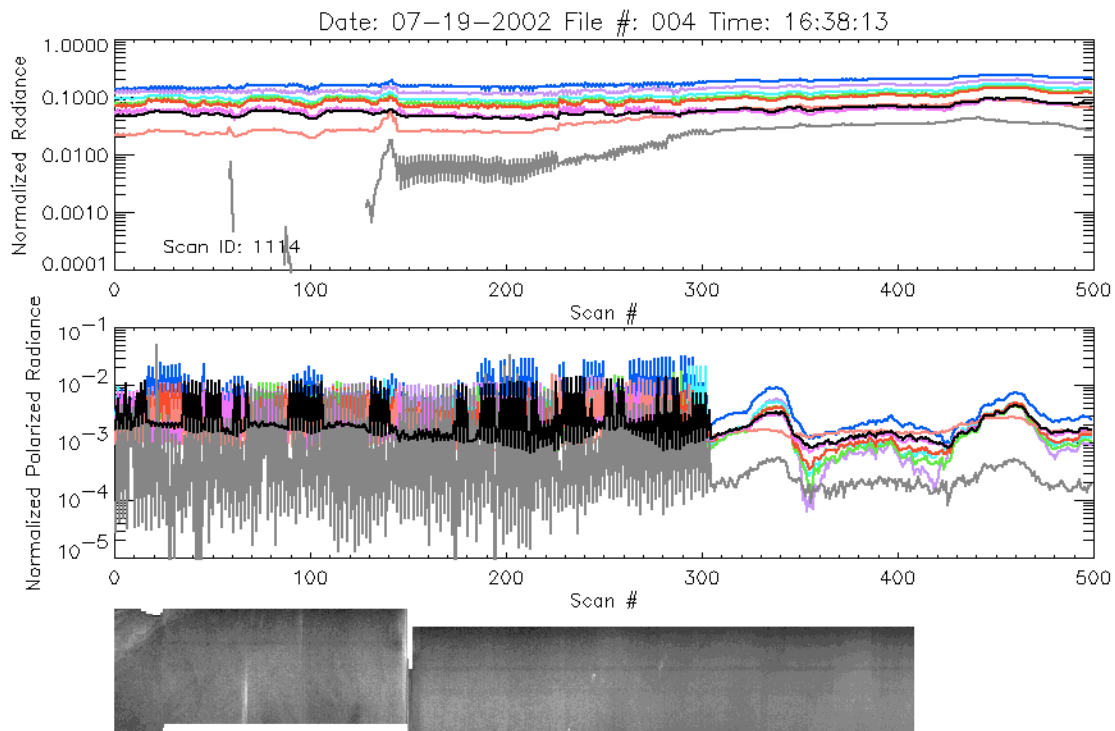
On 07-19-2002 a relatively thick cirrus cloud was observed with a wide range of scattering angles and with near coincidence with the WB57 (21:21). The absence of distinct features in the polarization over this scattering angle range, particularly in the 1880 nm band, indicates that the ice crystals are highly distorted (similar to fractal, or randomly deformed particles).

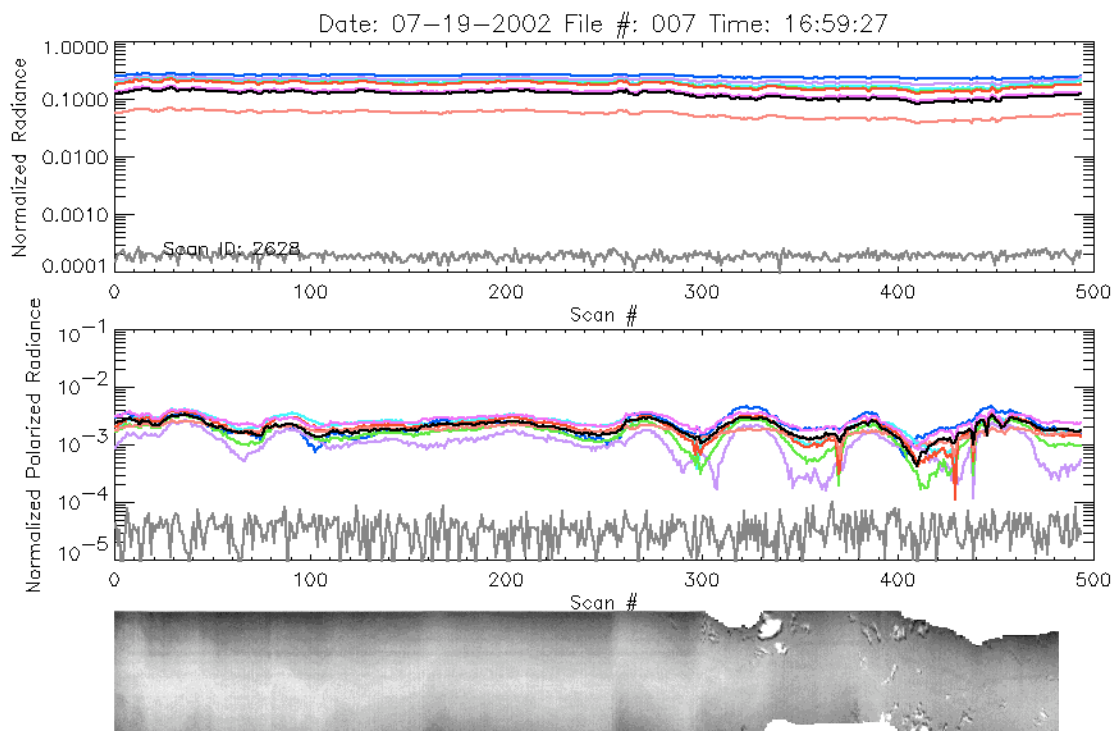
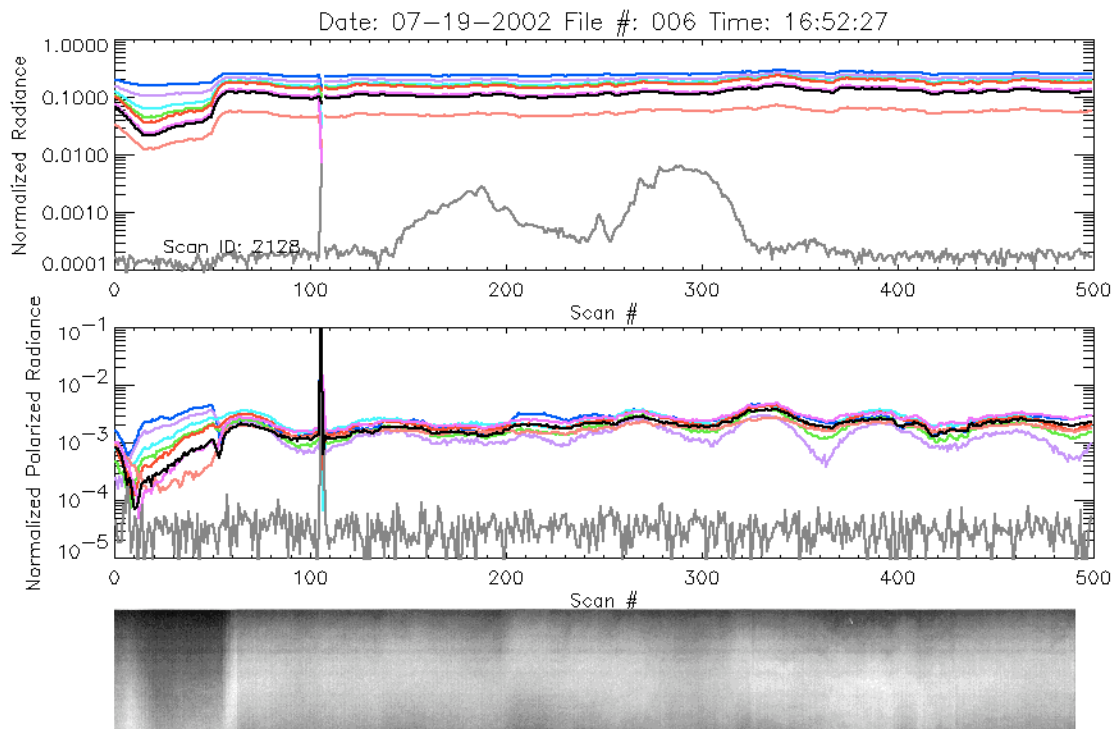
RSP on Proteus 07-19-2002

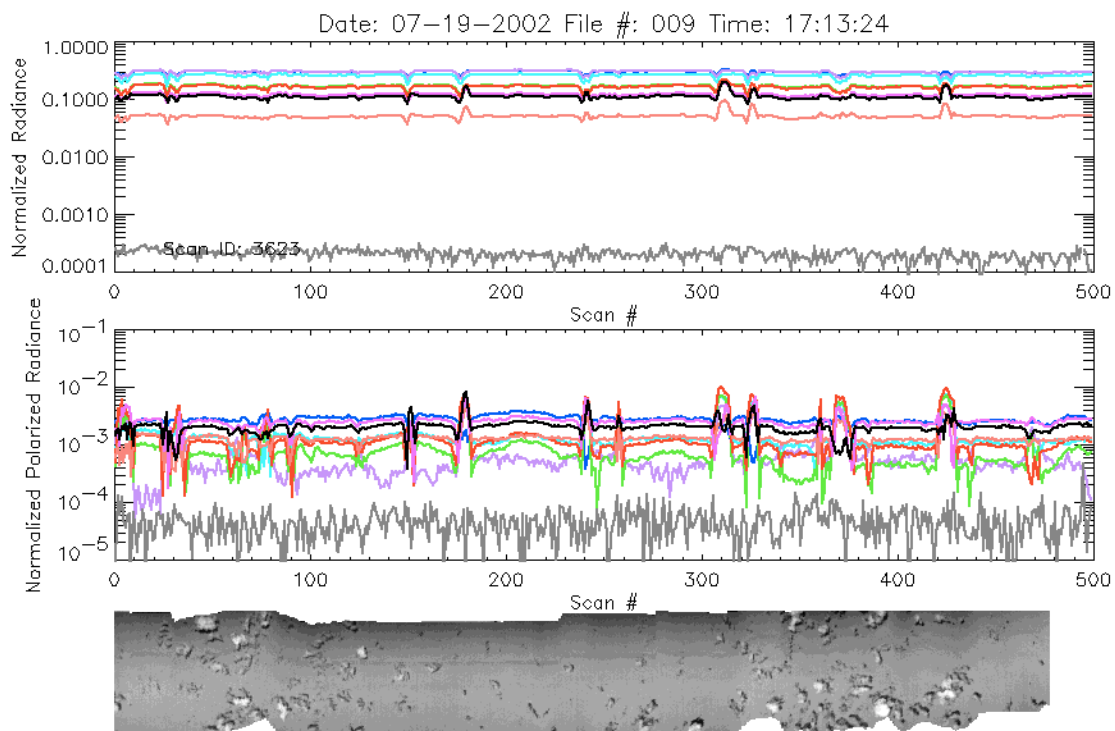
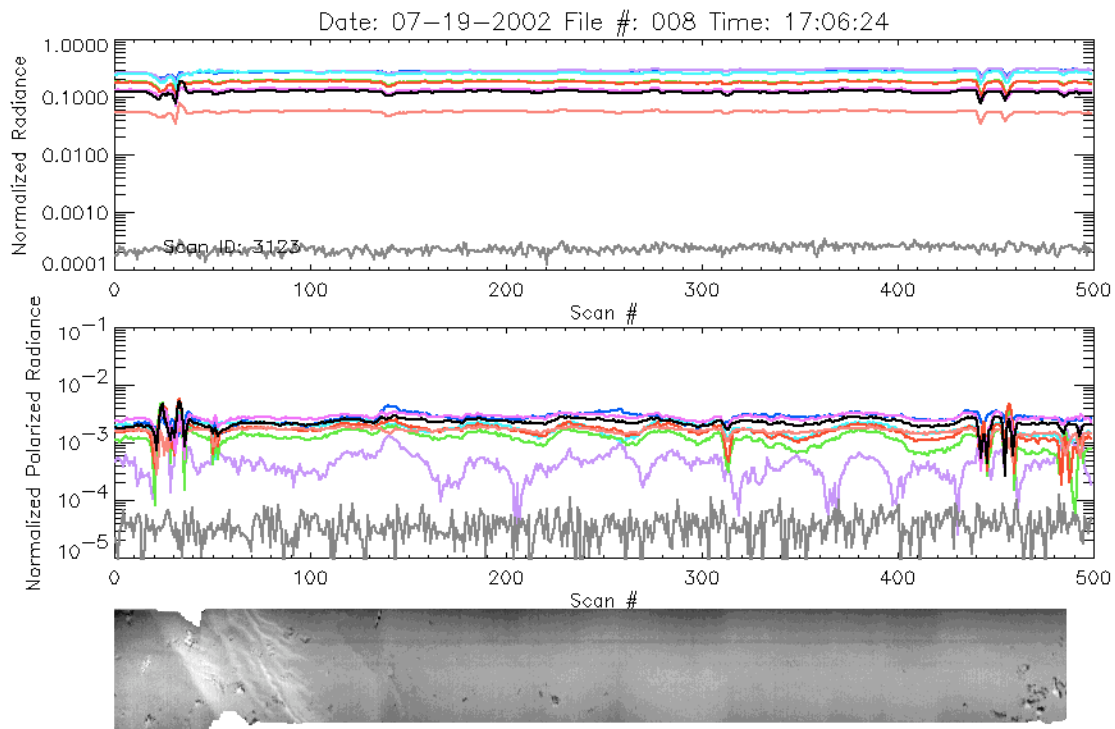
Start time 16:23:35 End time 21:42:09

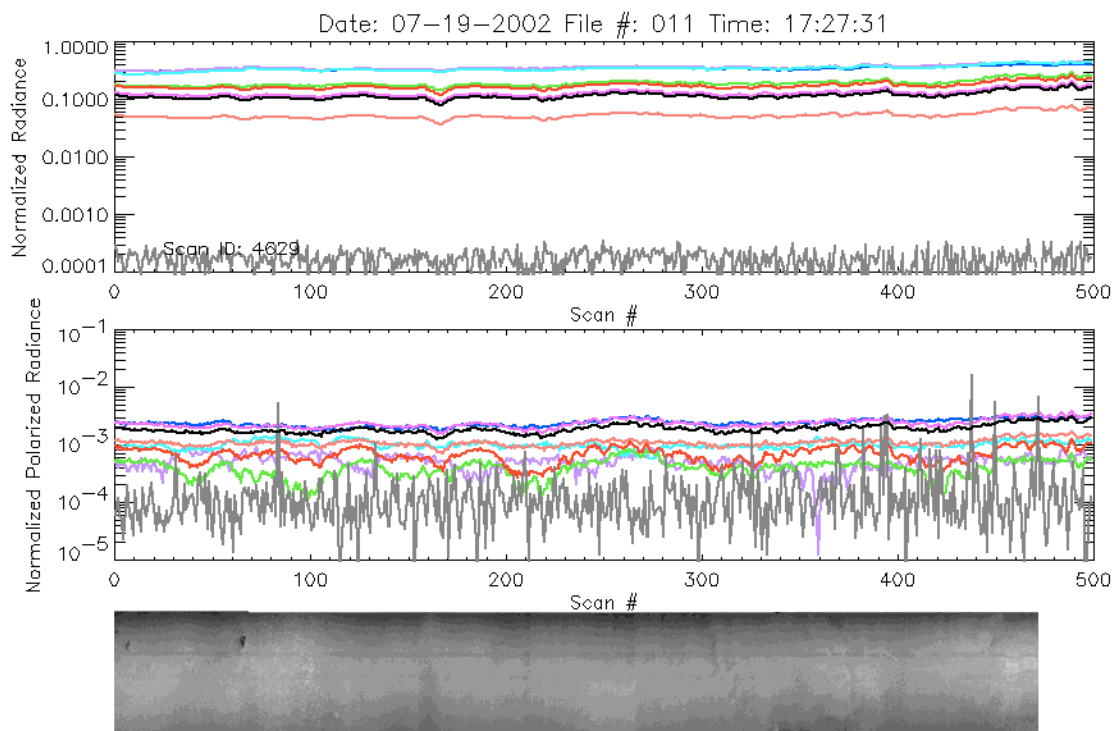
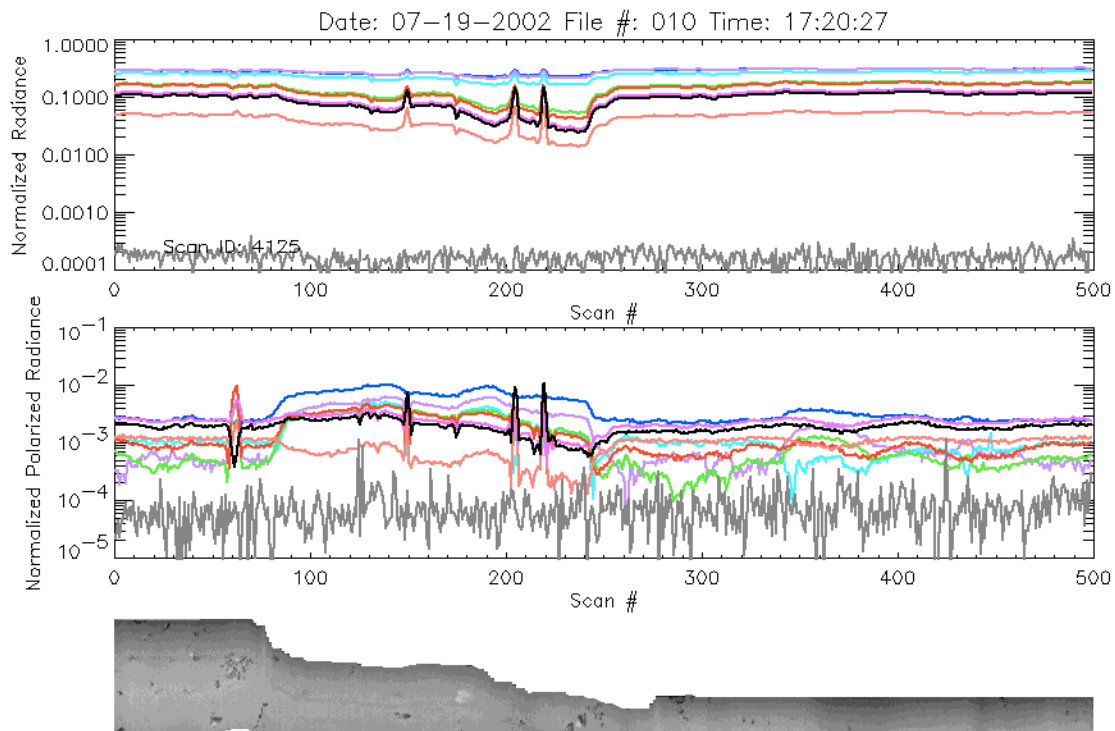


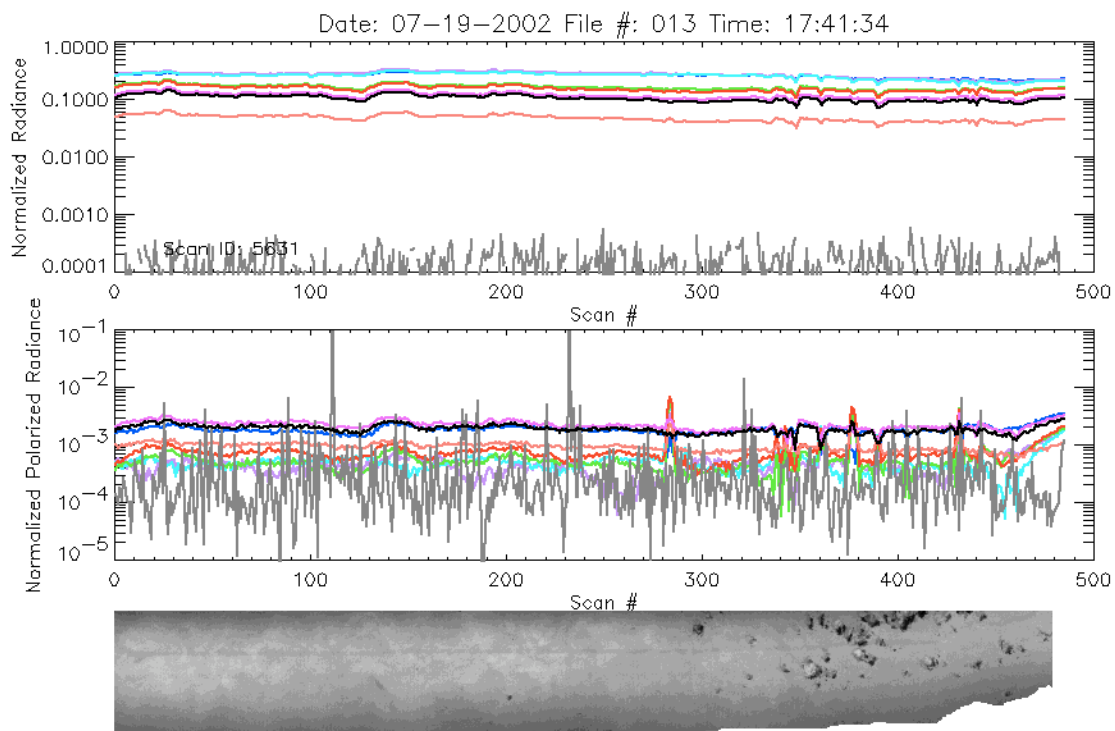
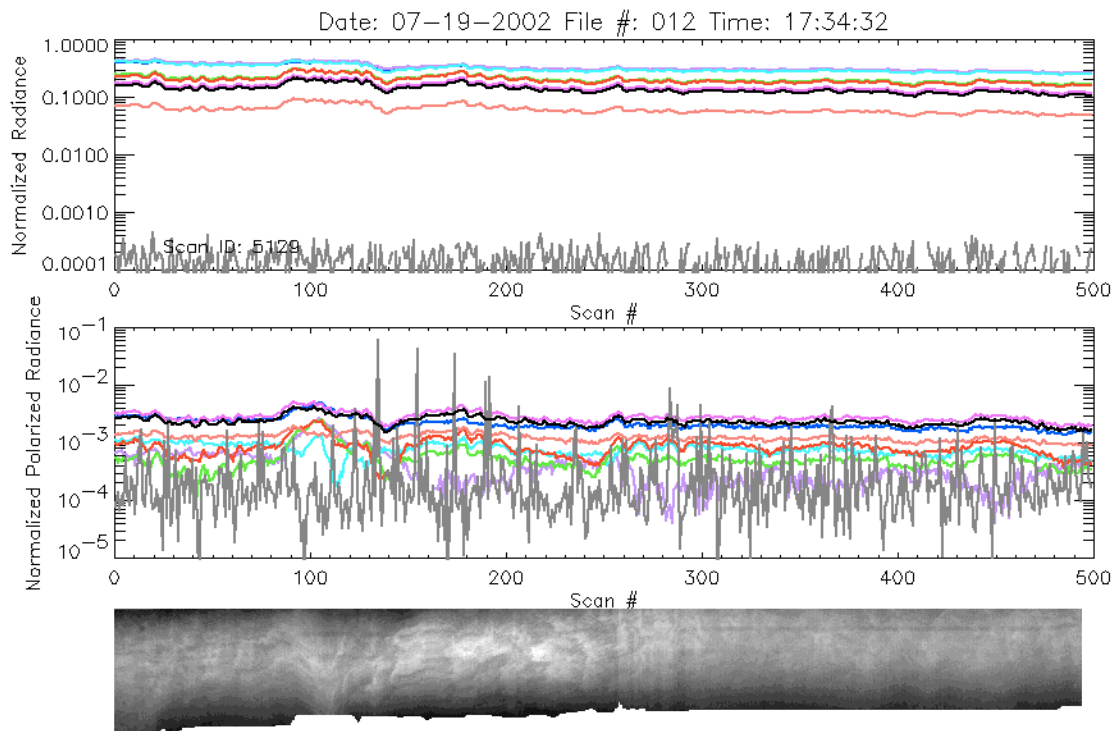


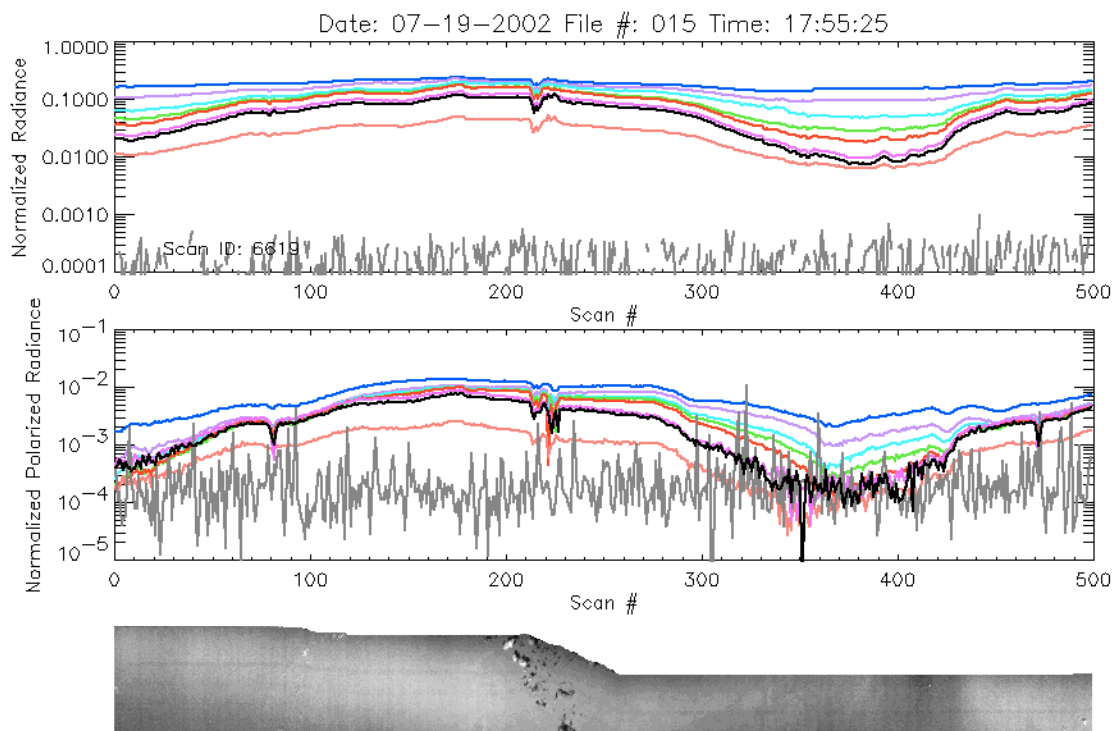
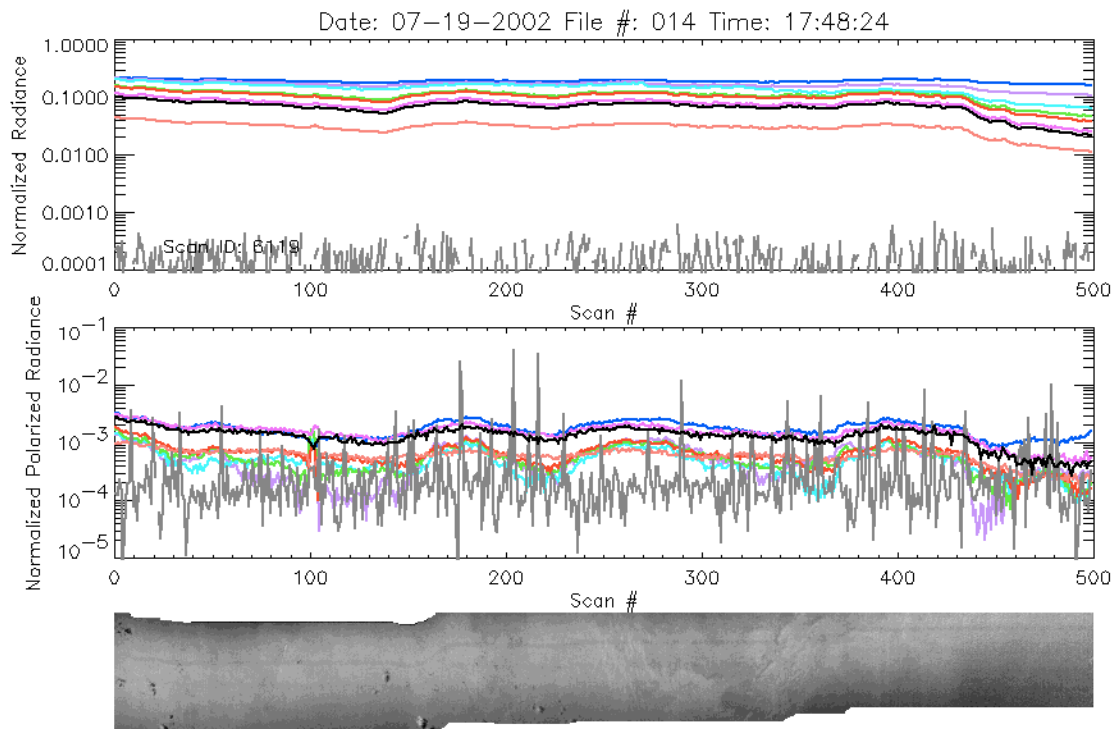


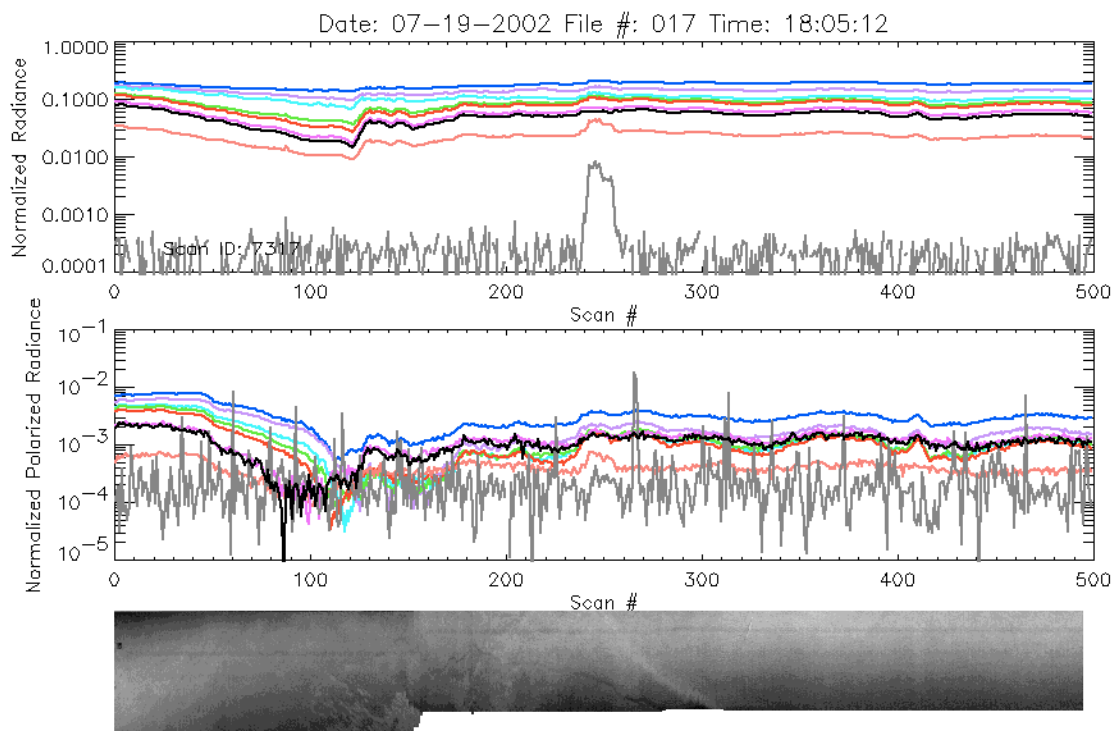
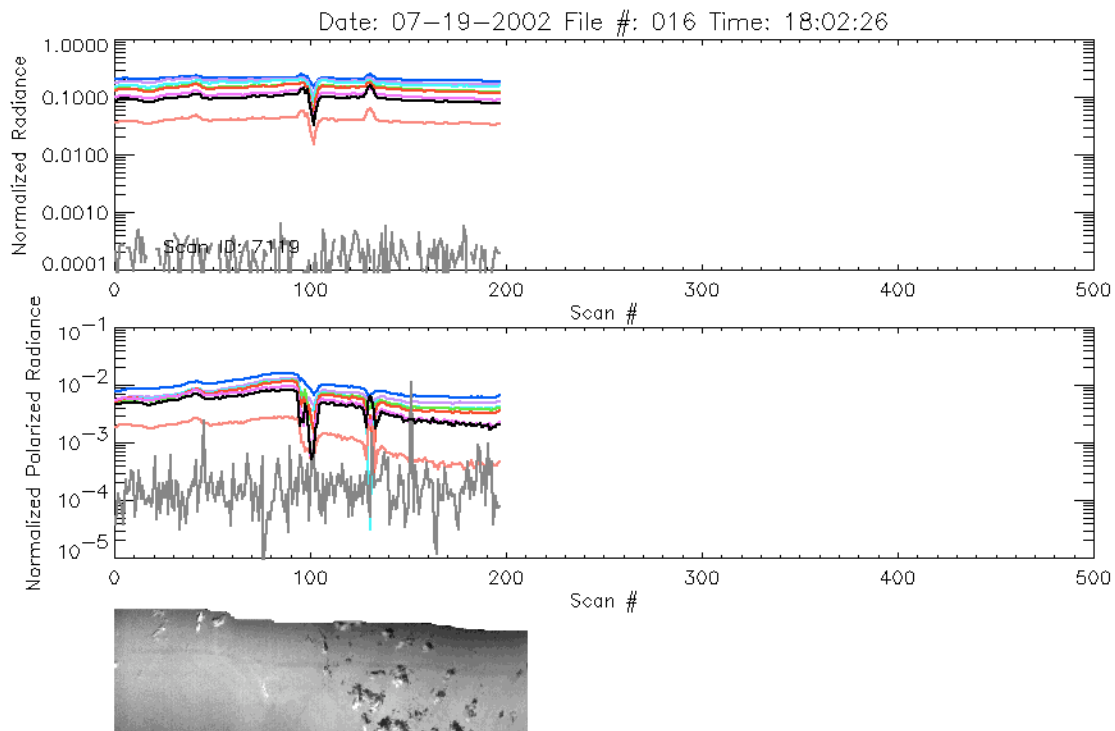


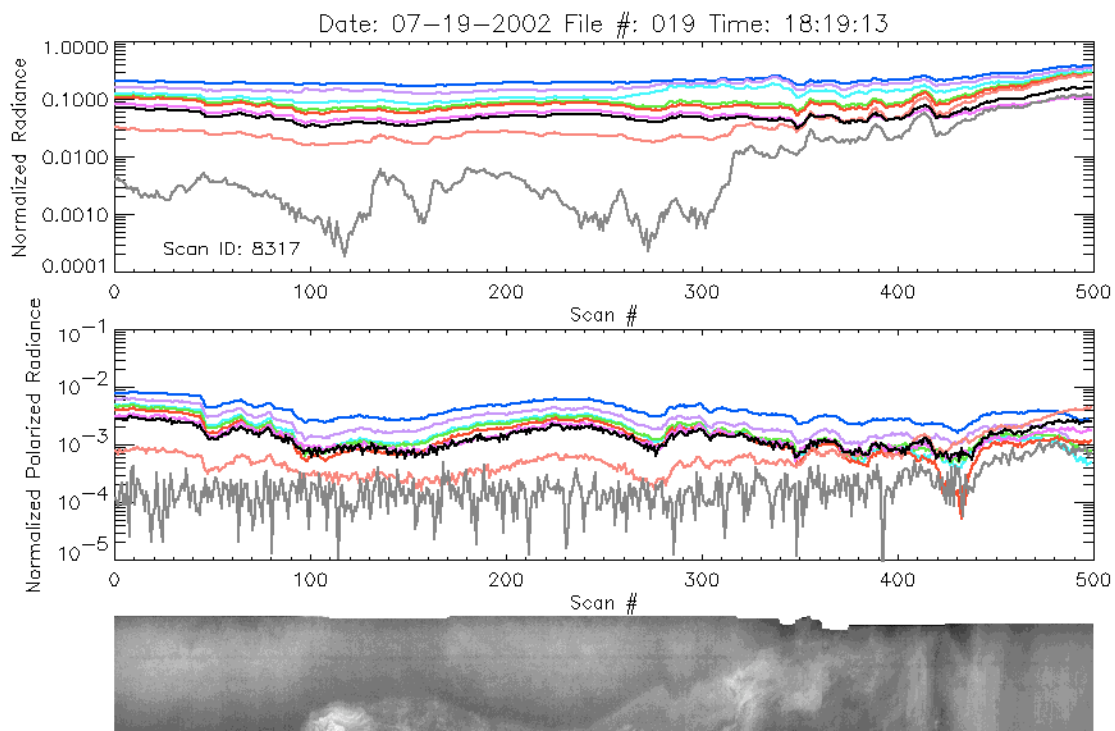
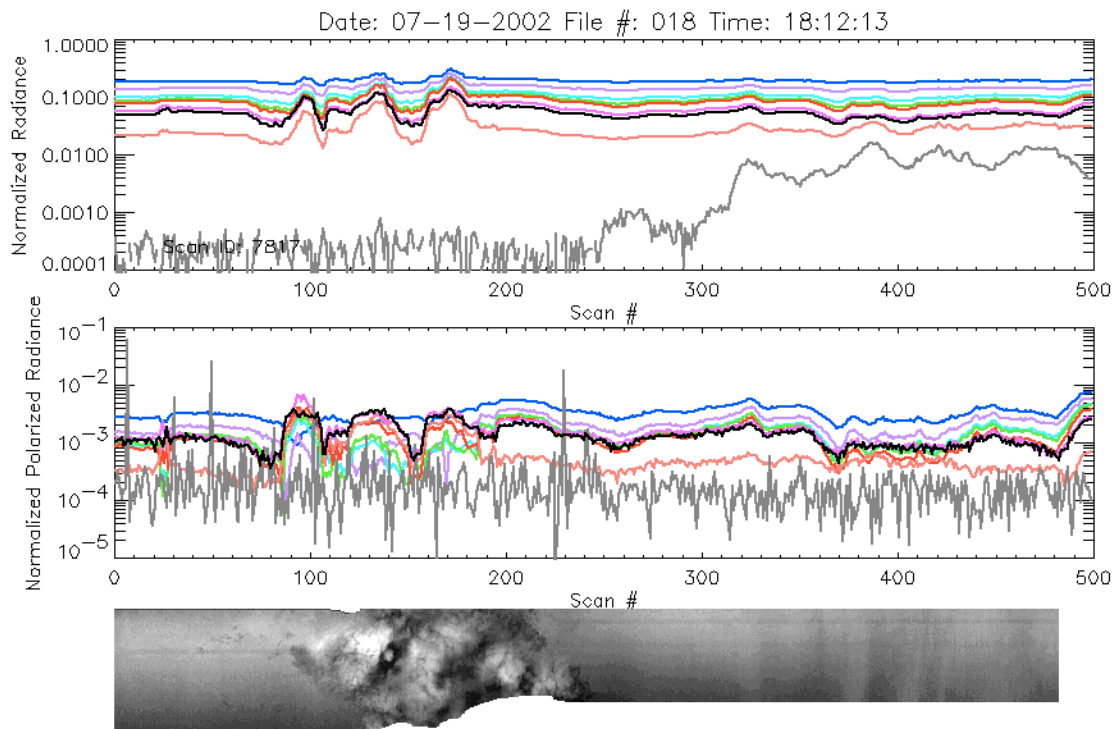


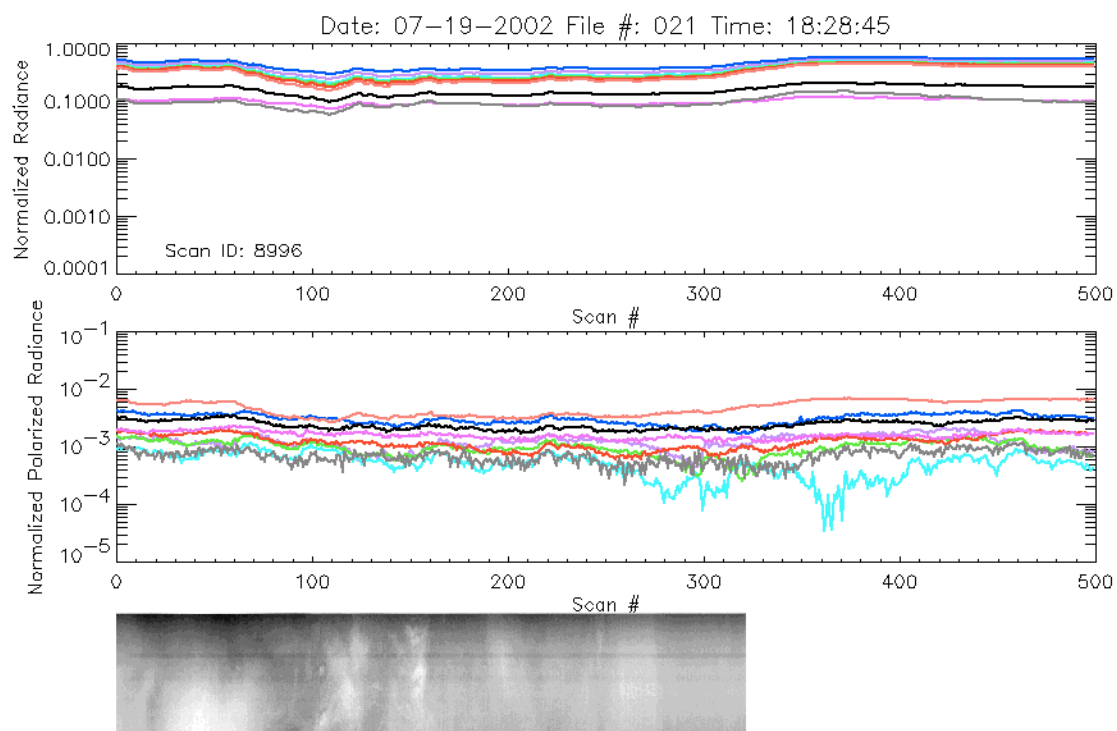
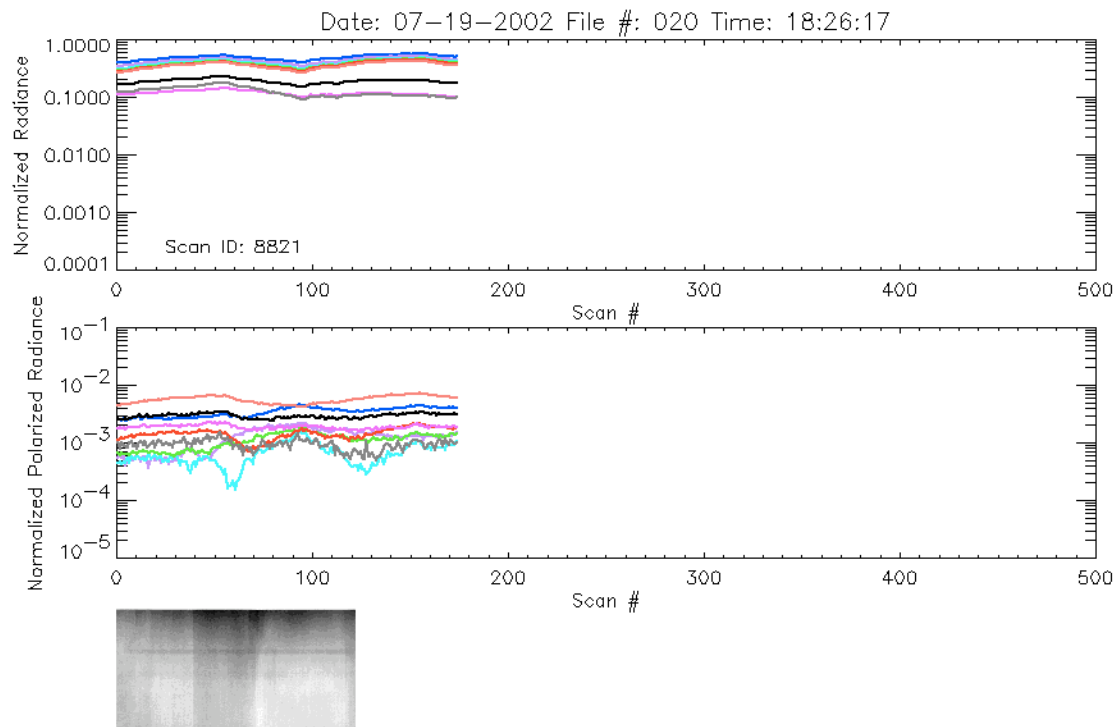


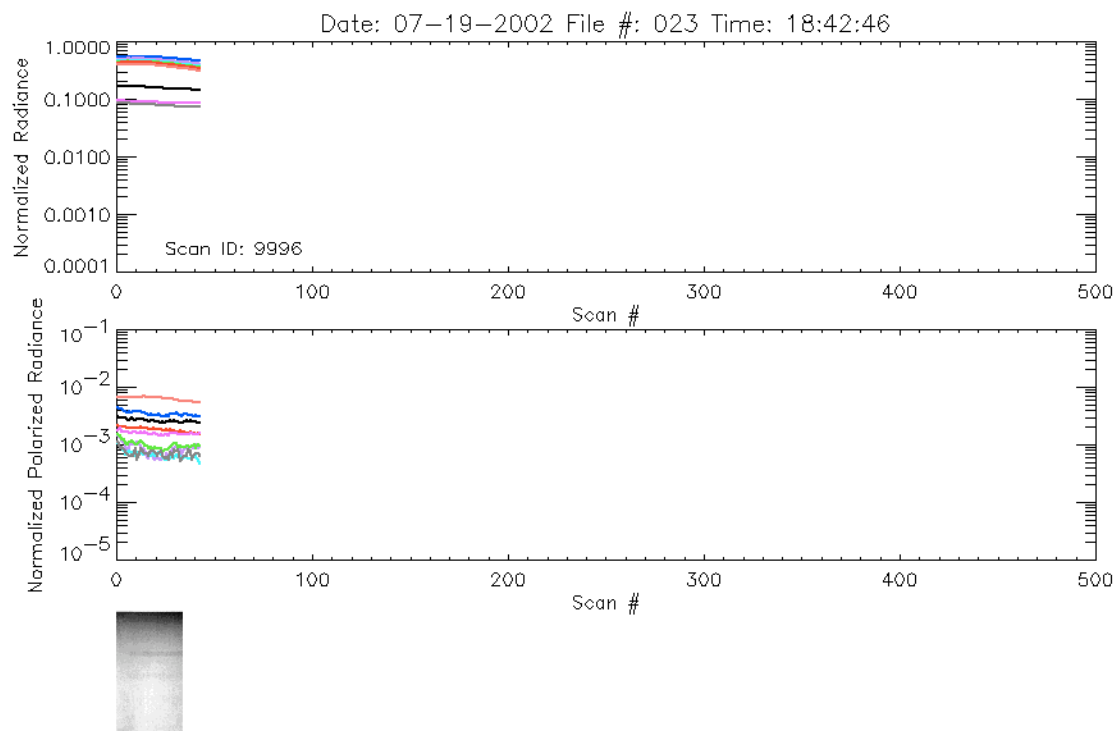
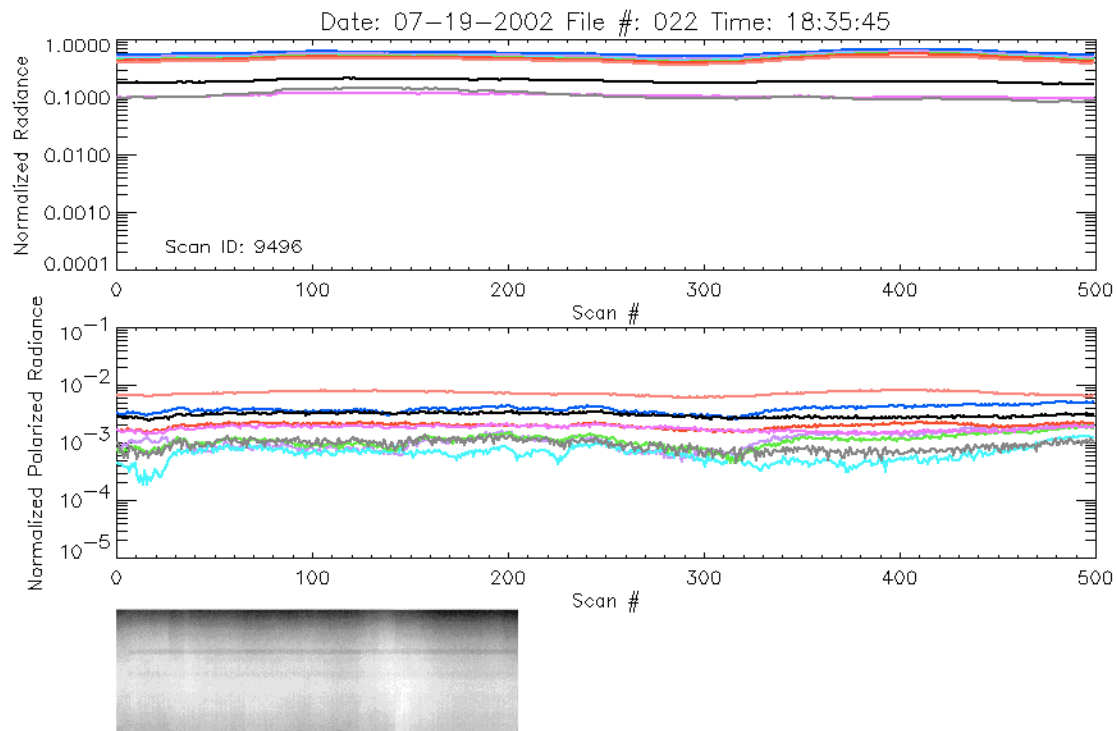


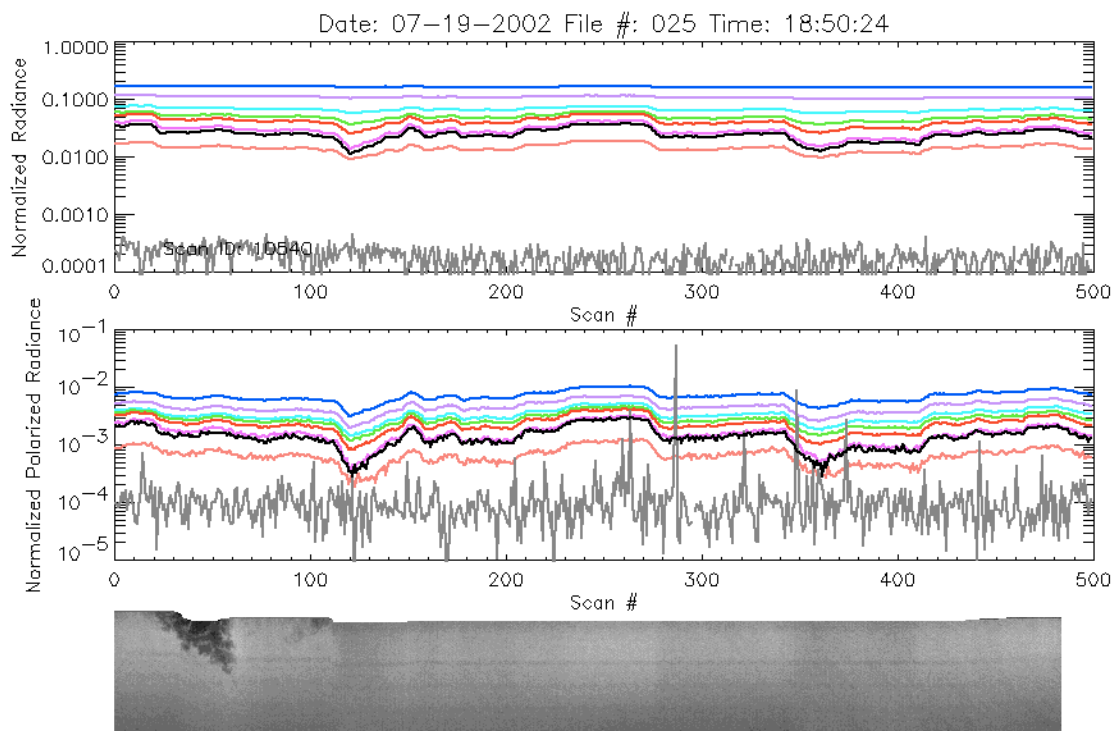
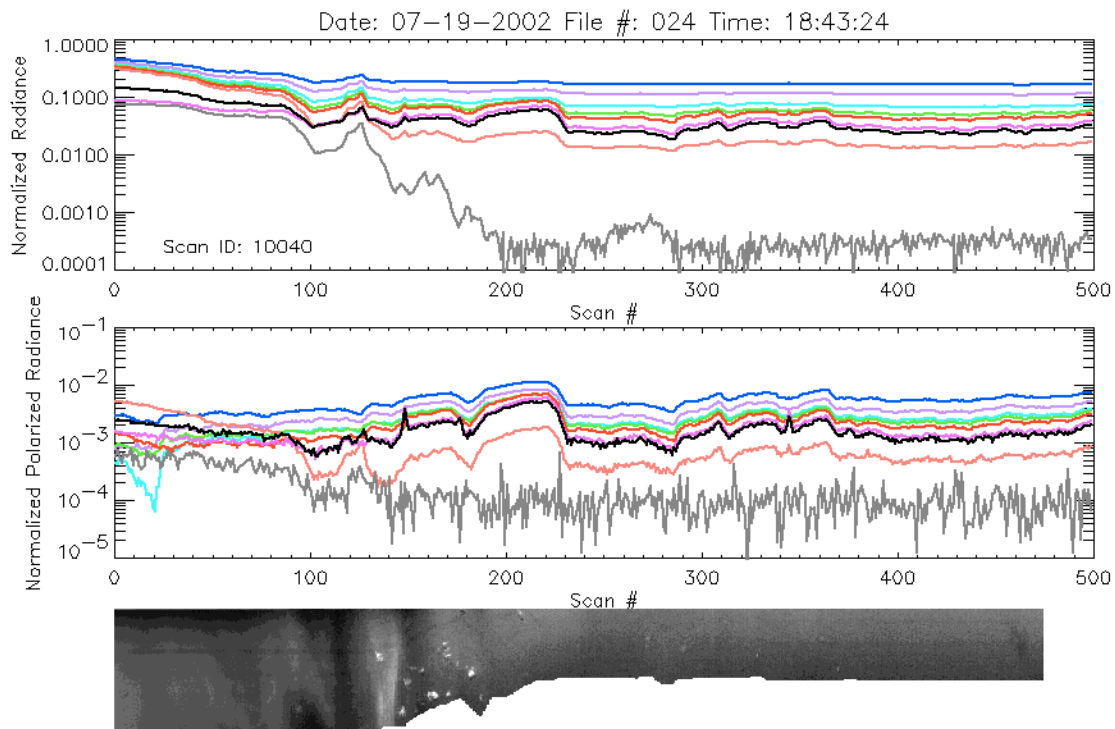




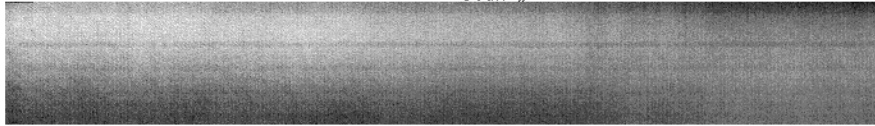
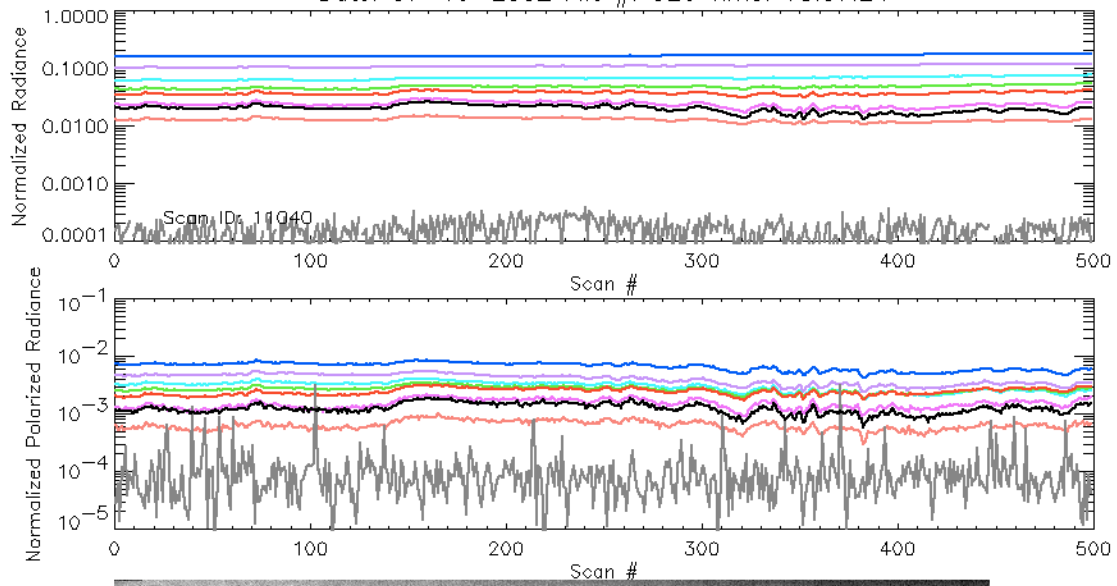




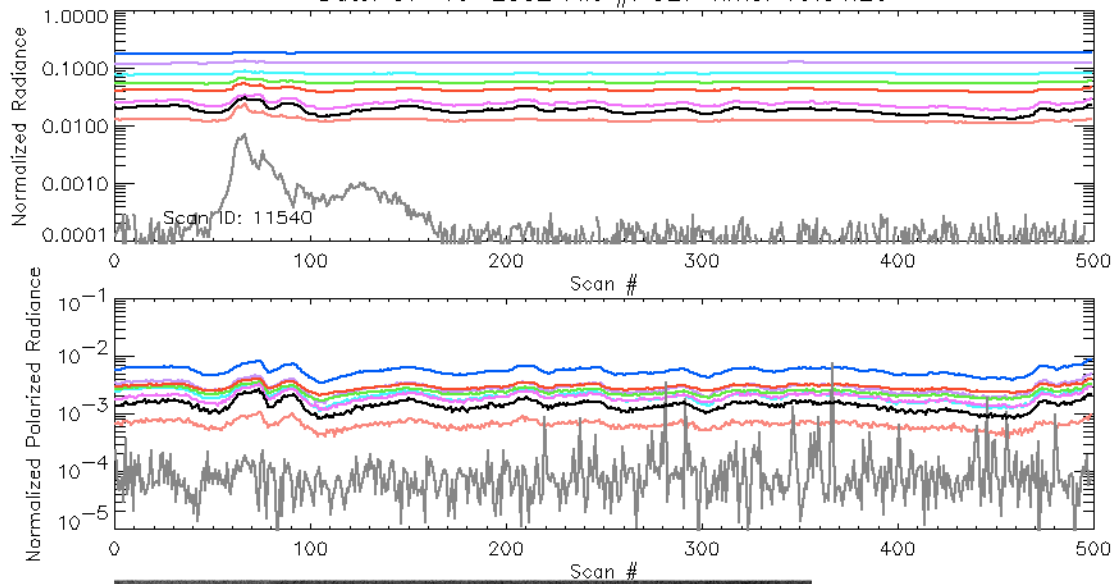


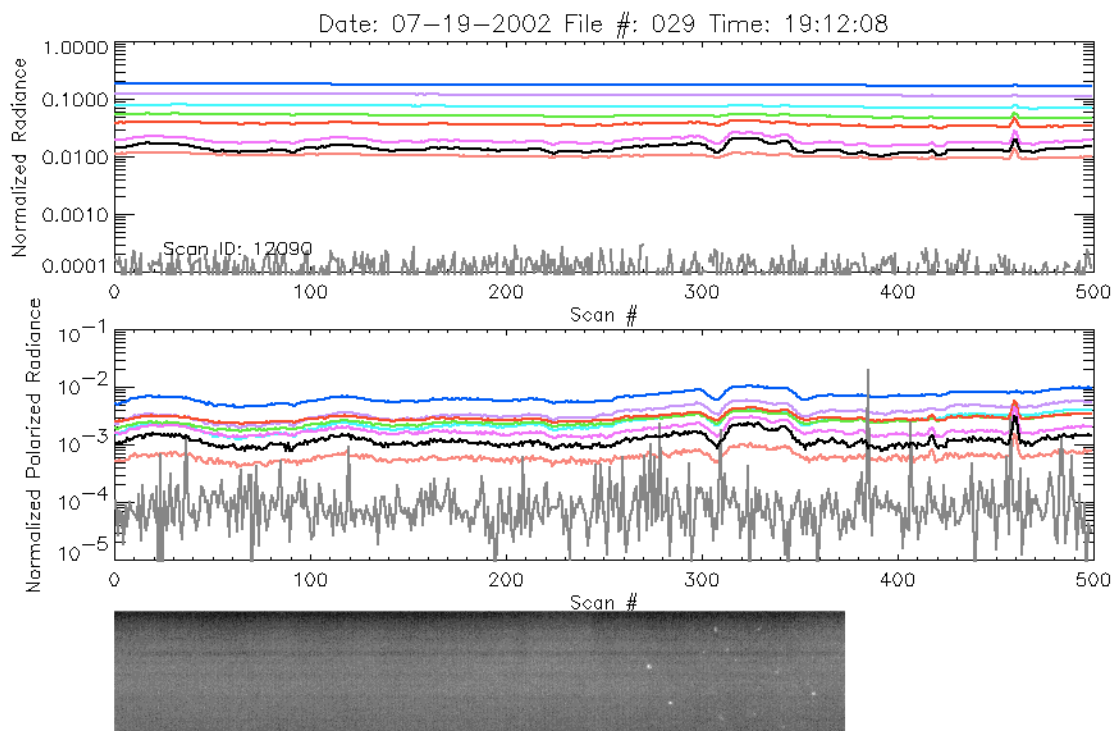
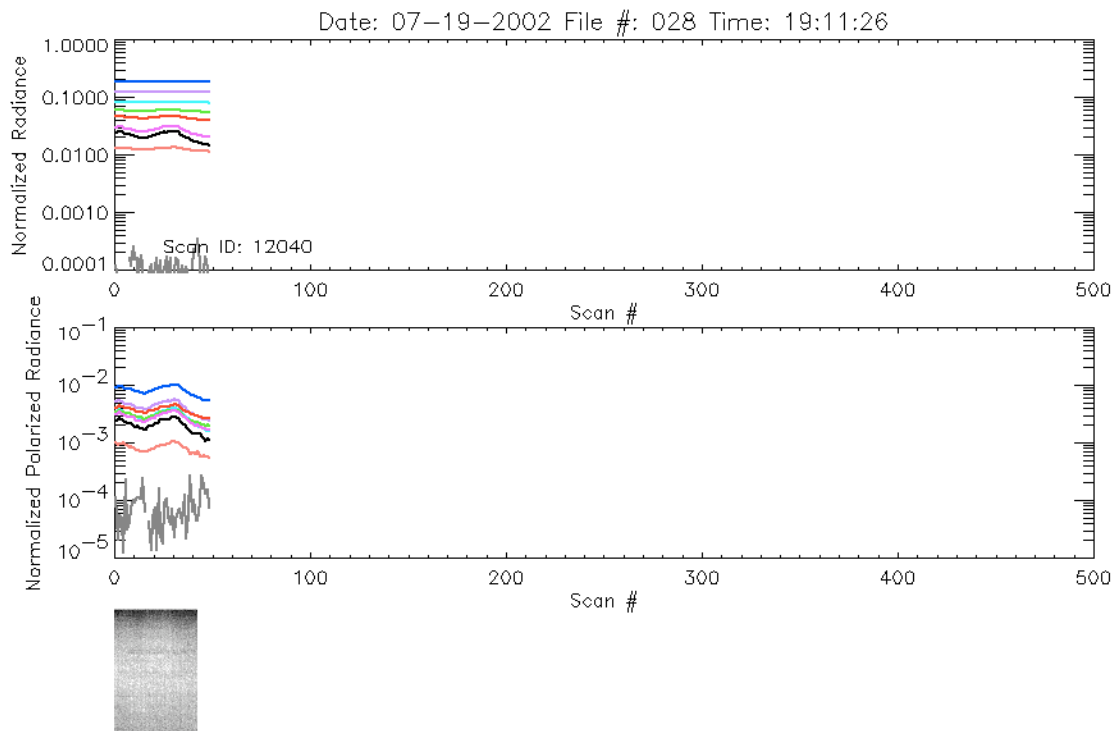


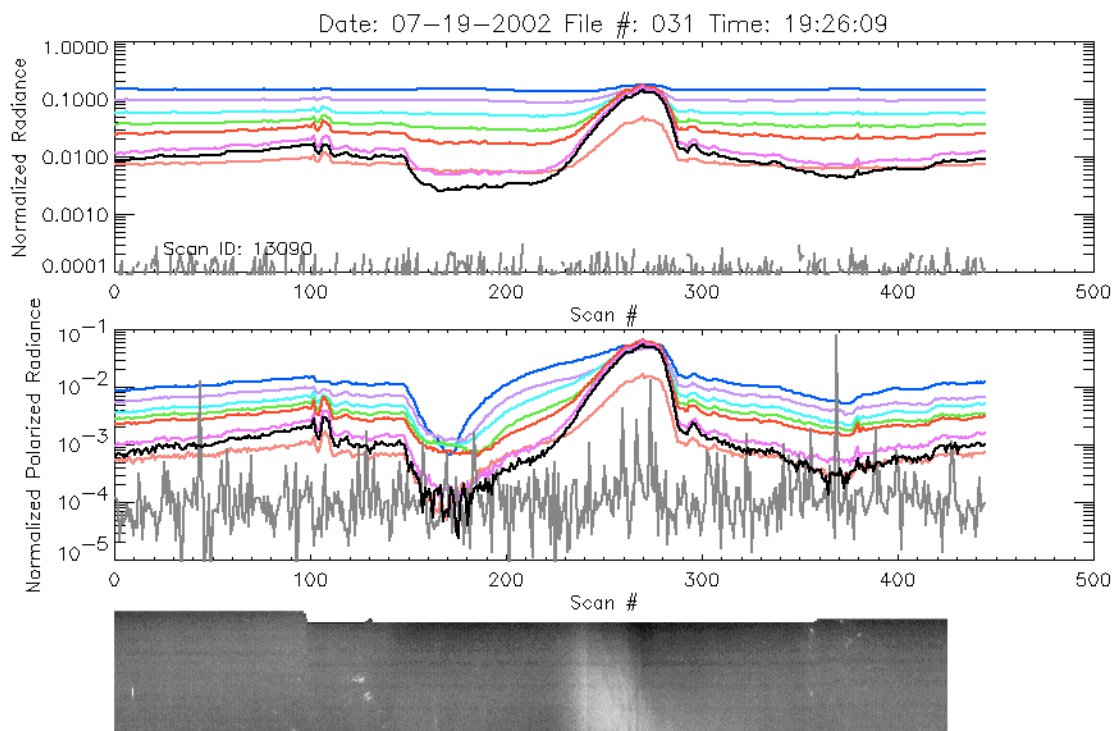
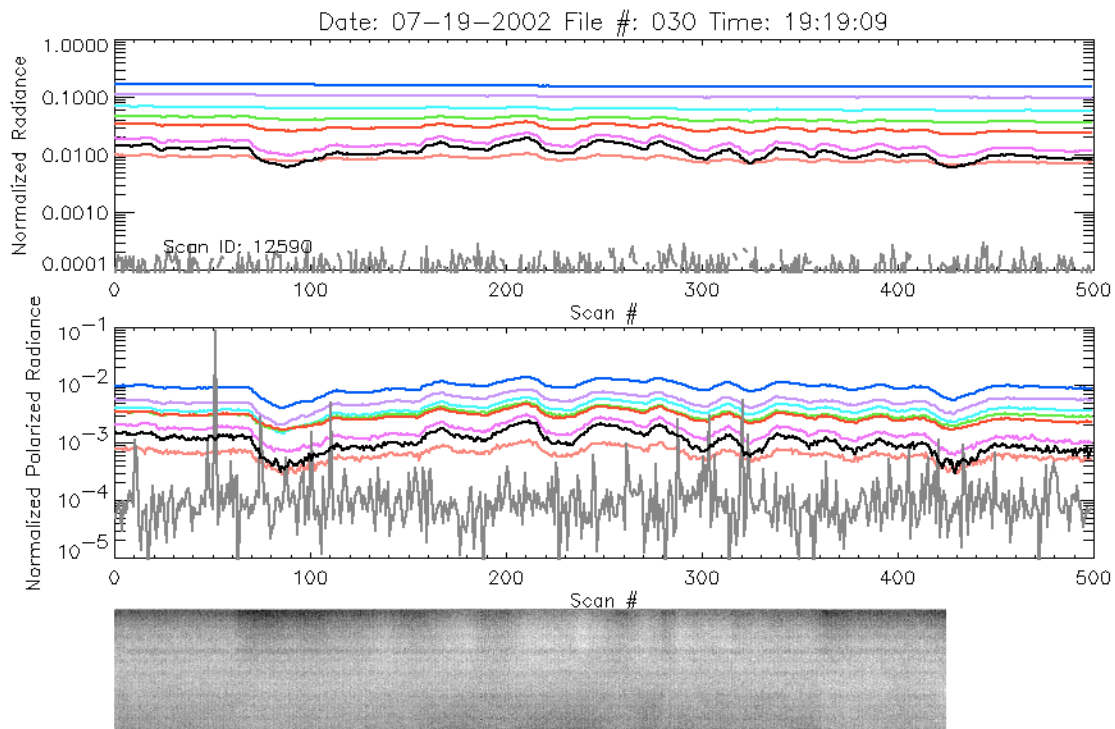
Date: 07-19-2002 File #: 026 Time: 18:57:24

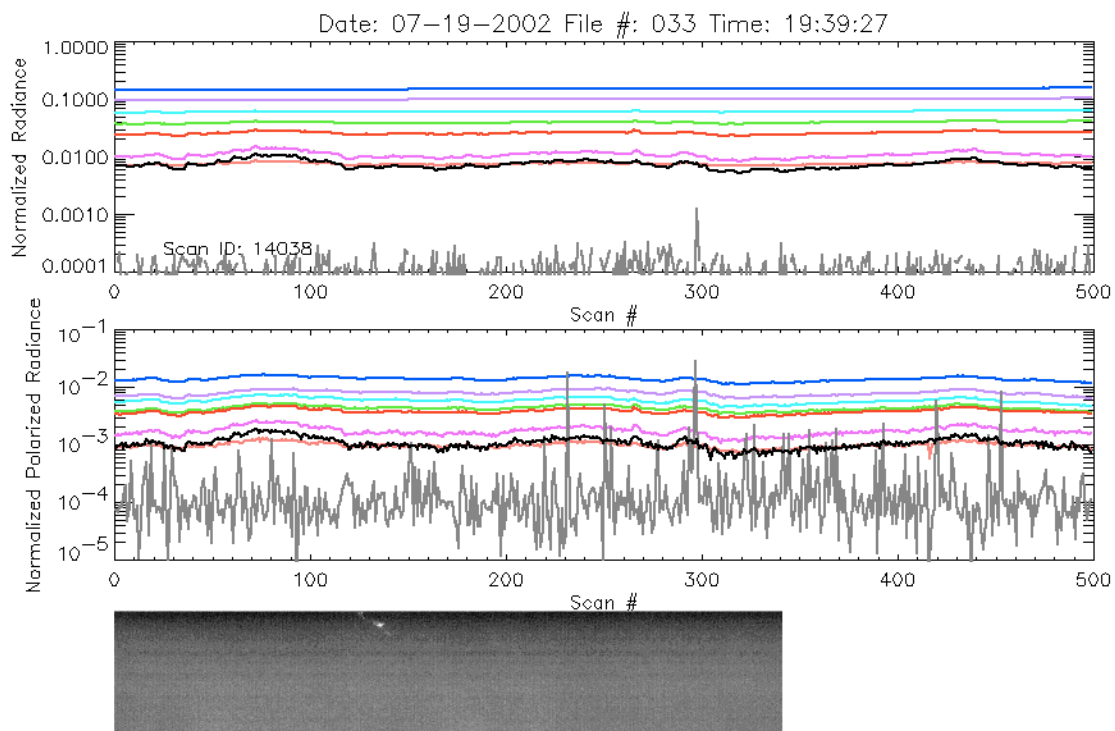
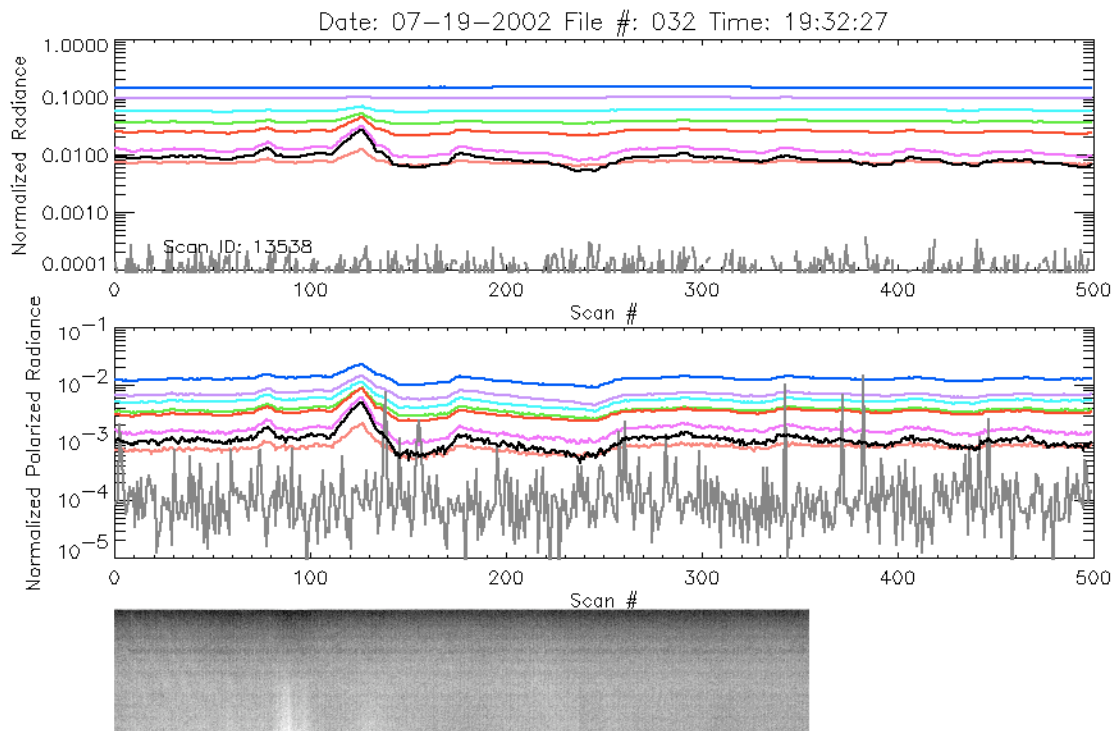


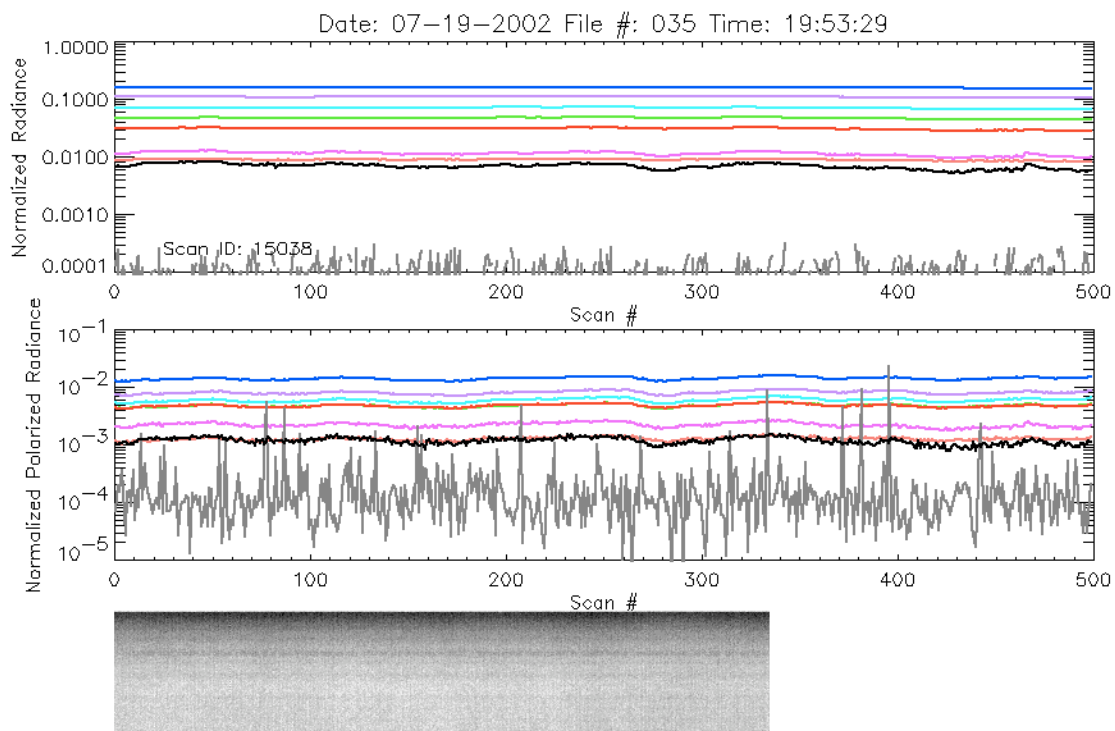
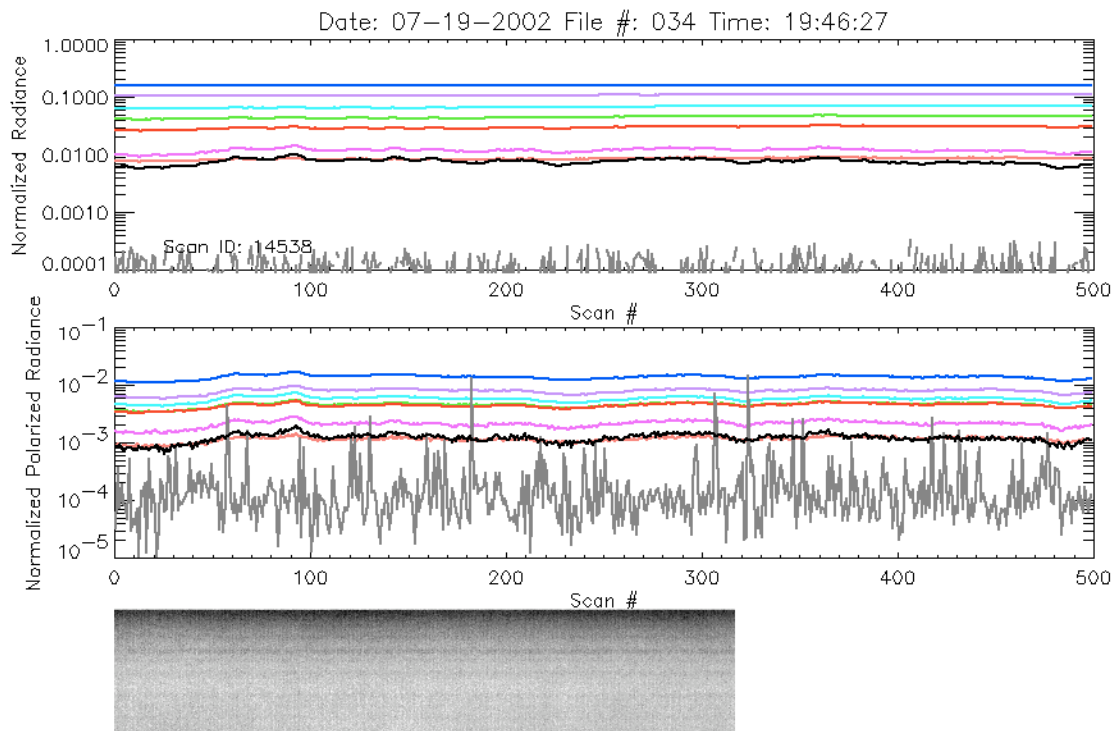
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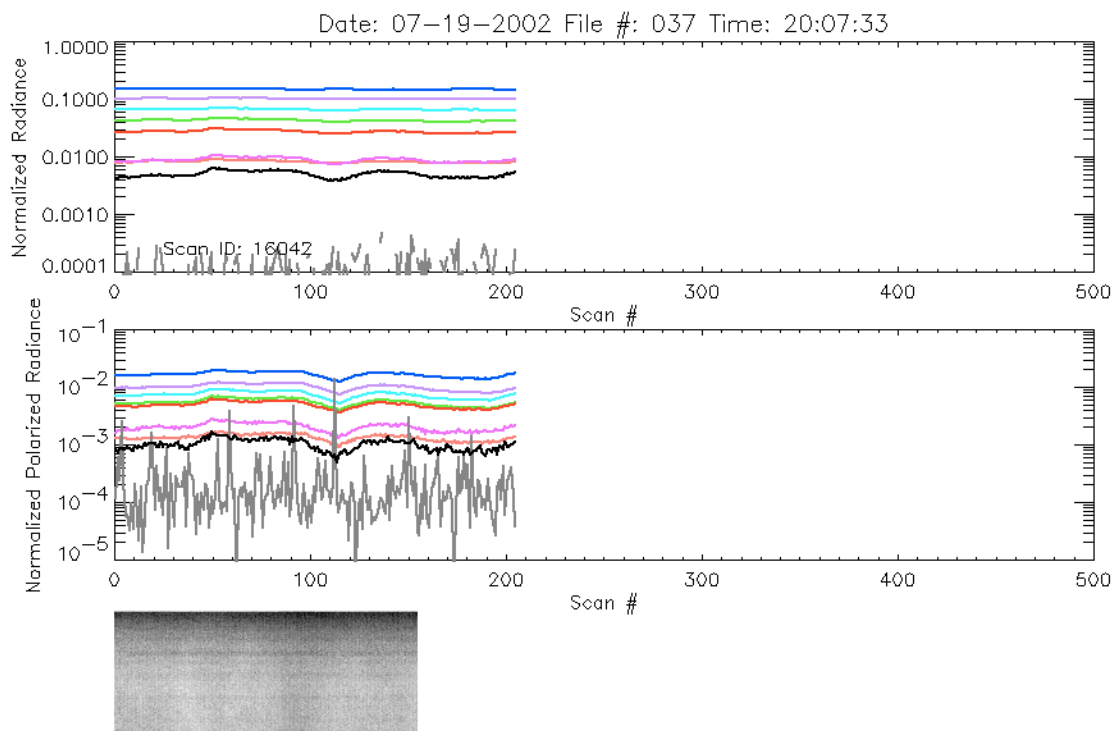
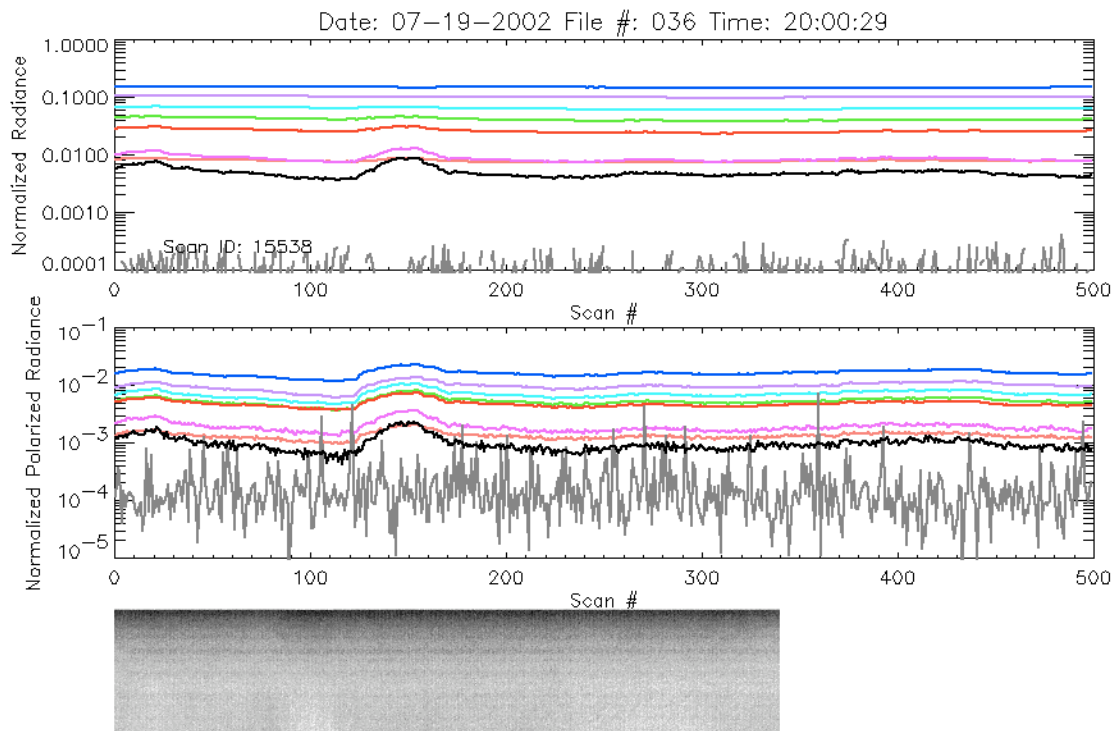


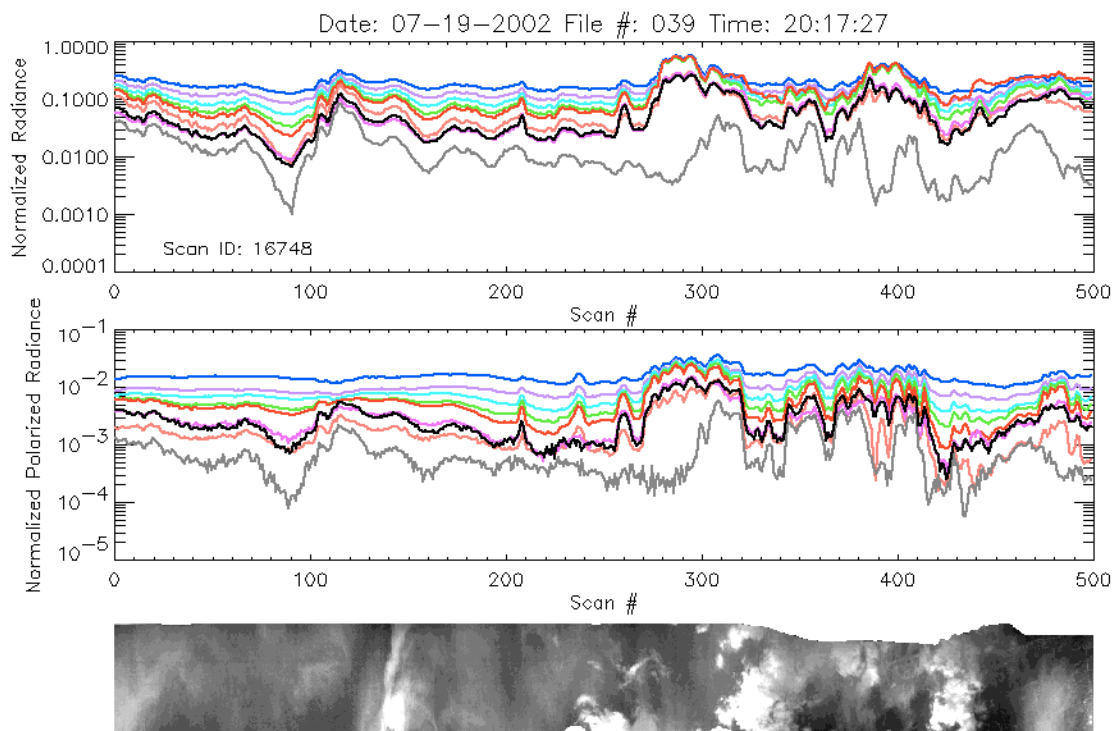
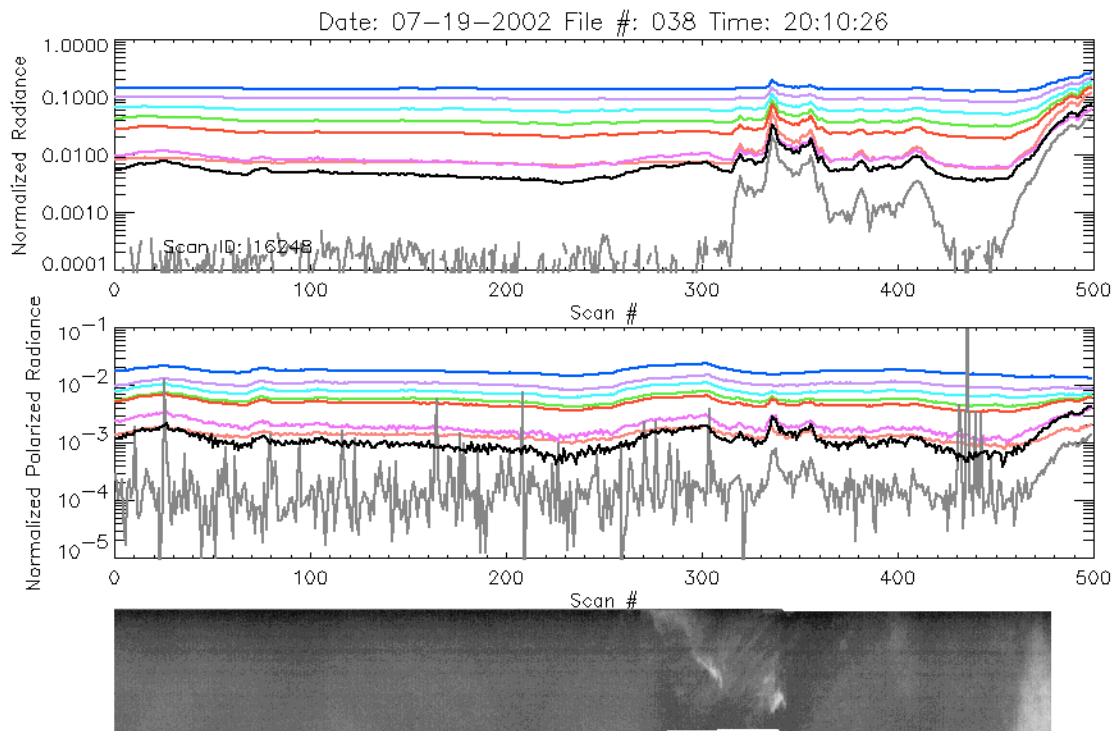


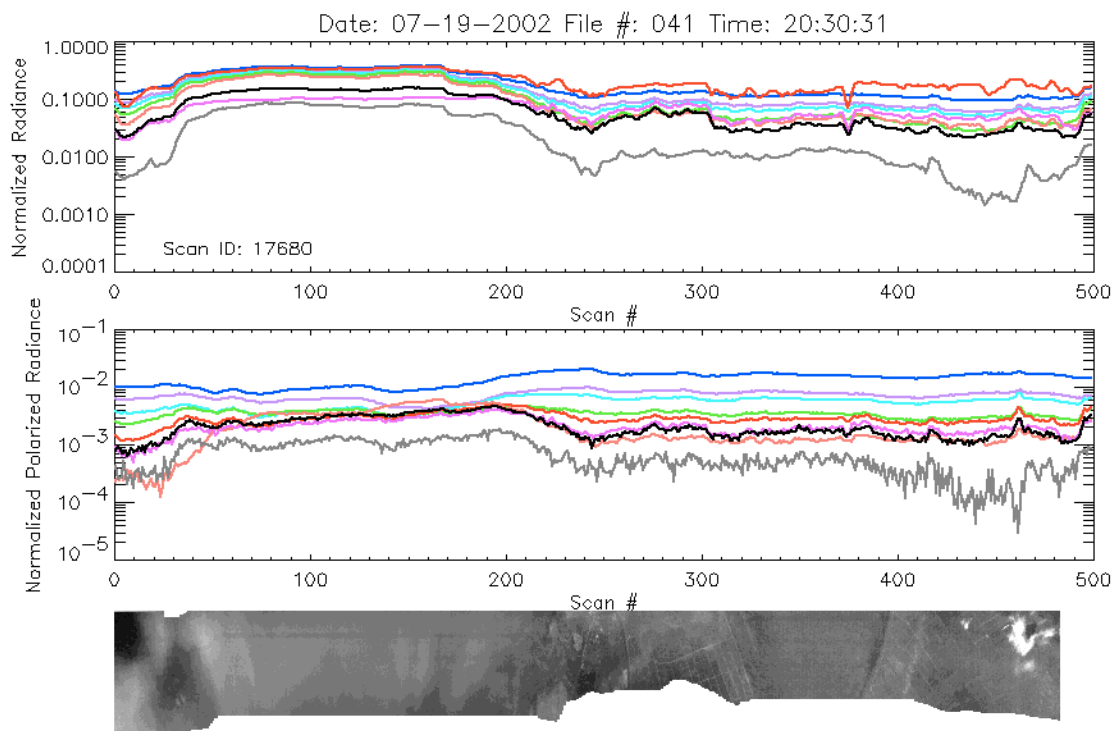
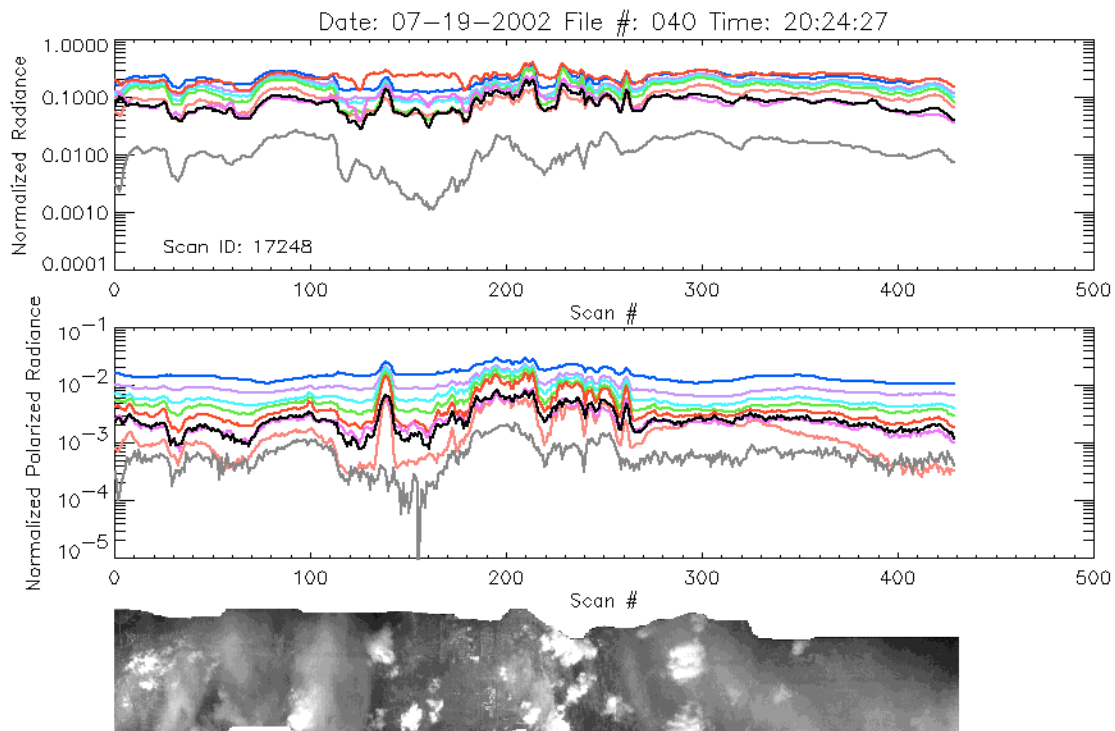


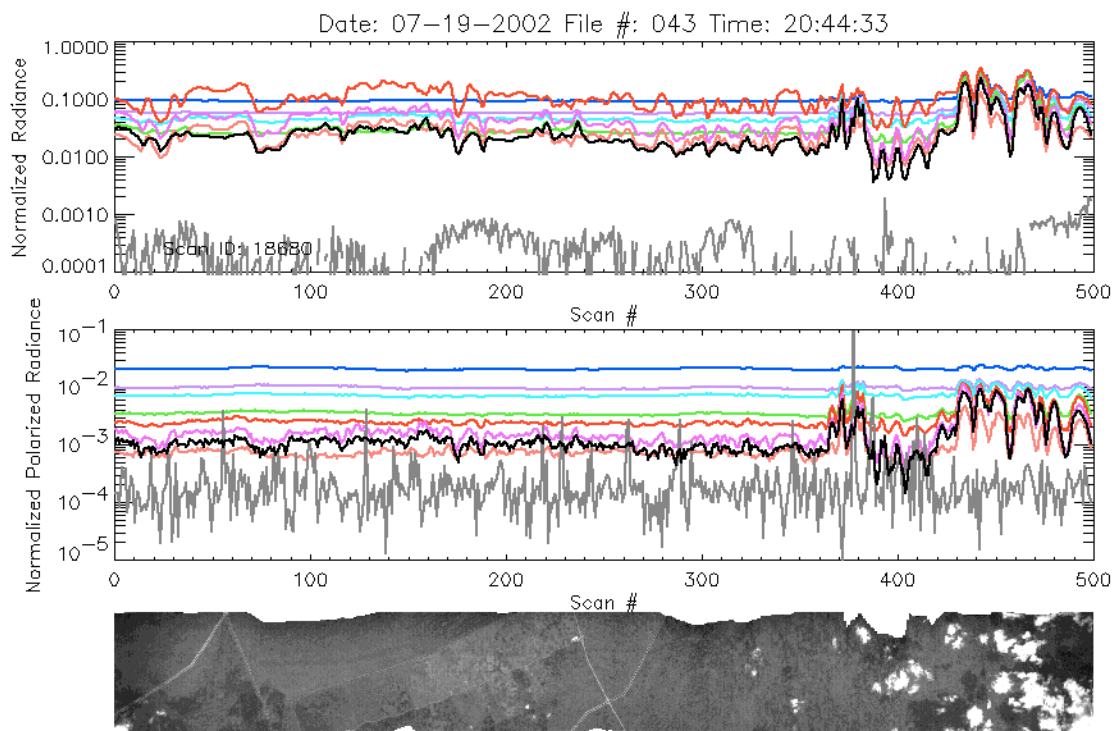
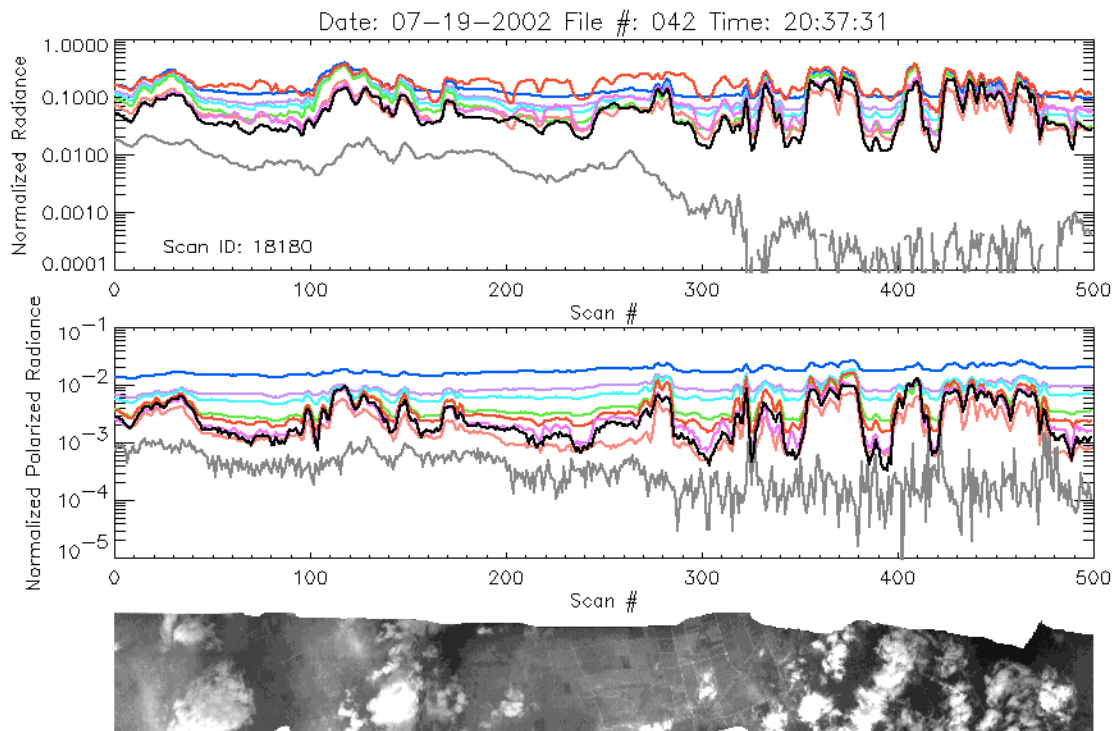


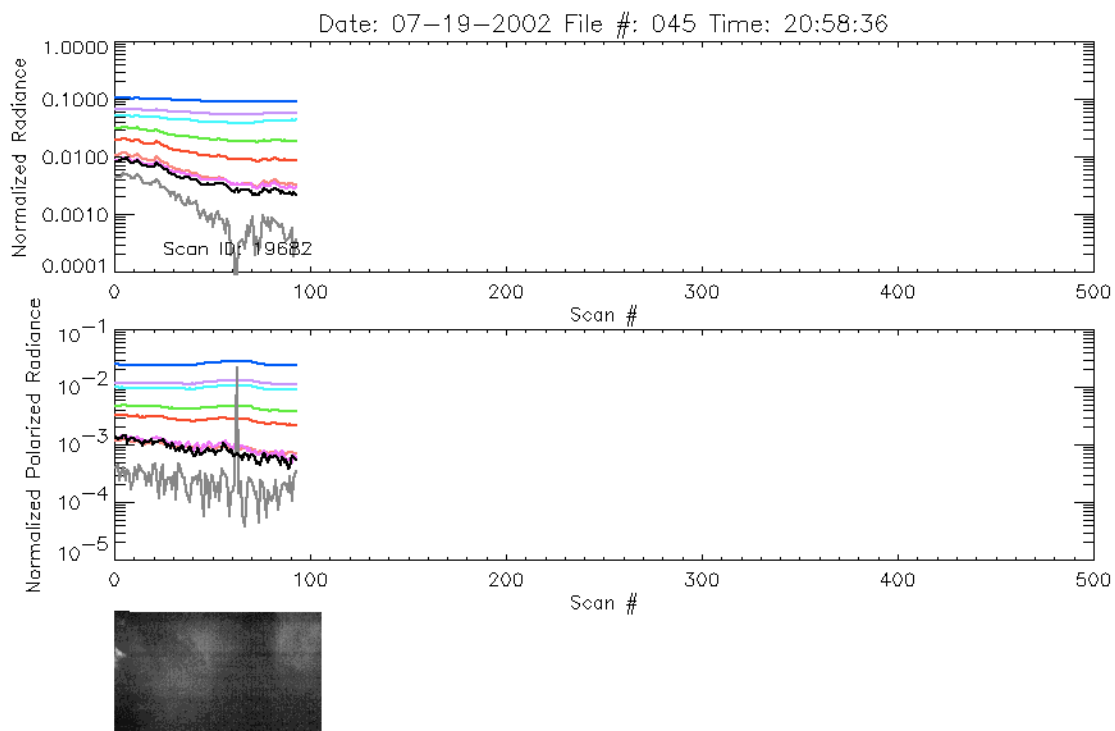
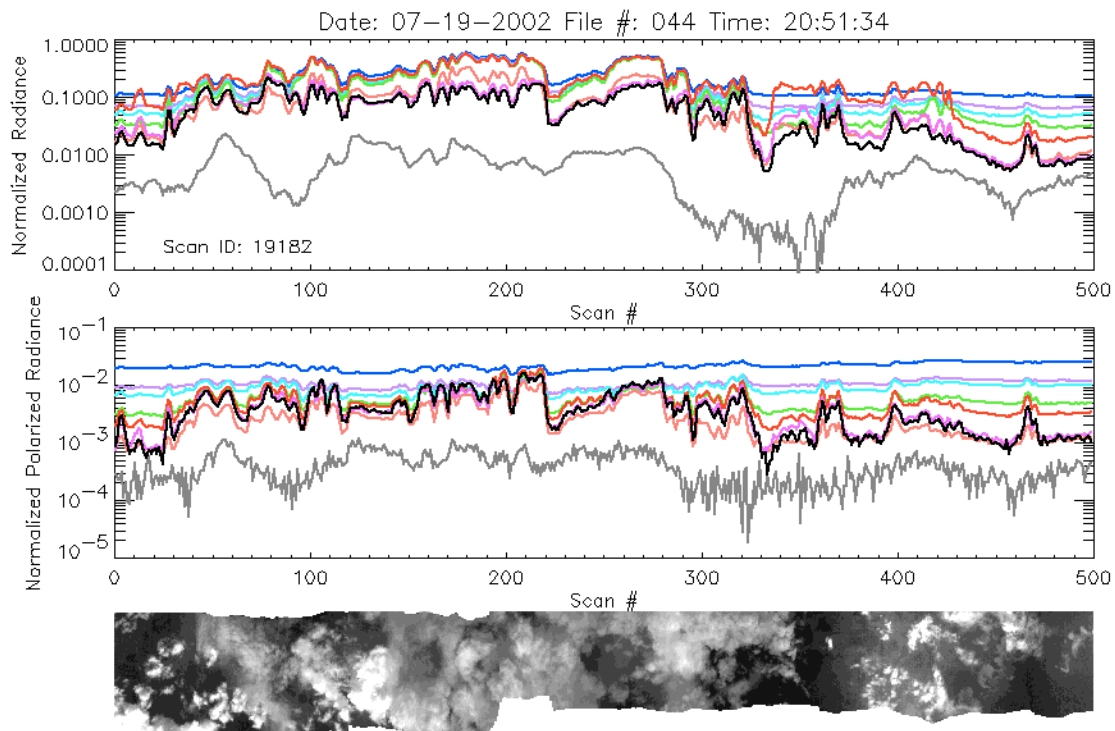


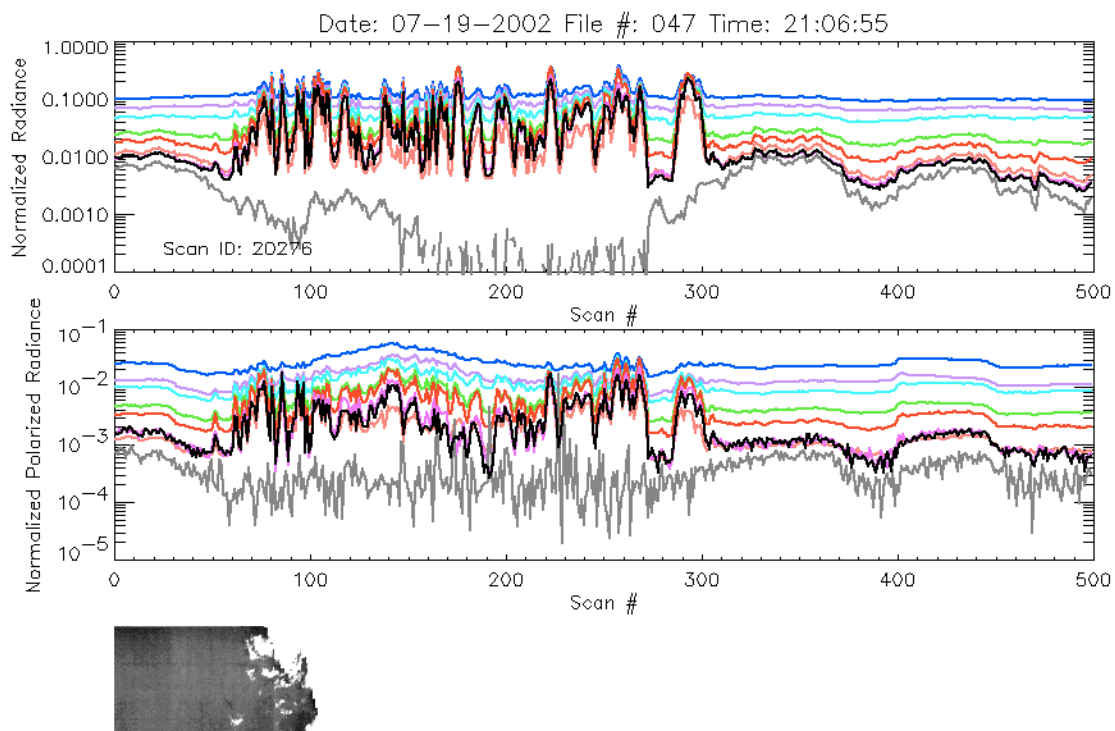
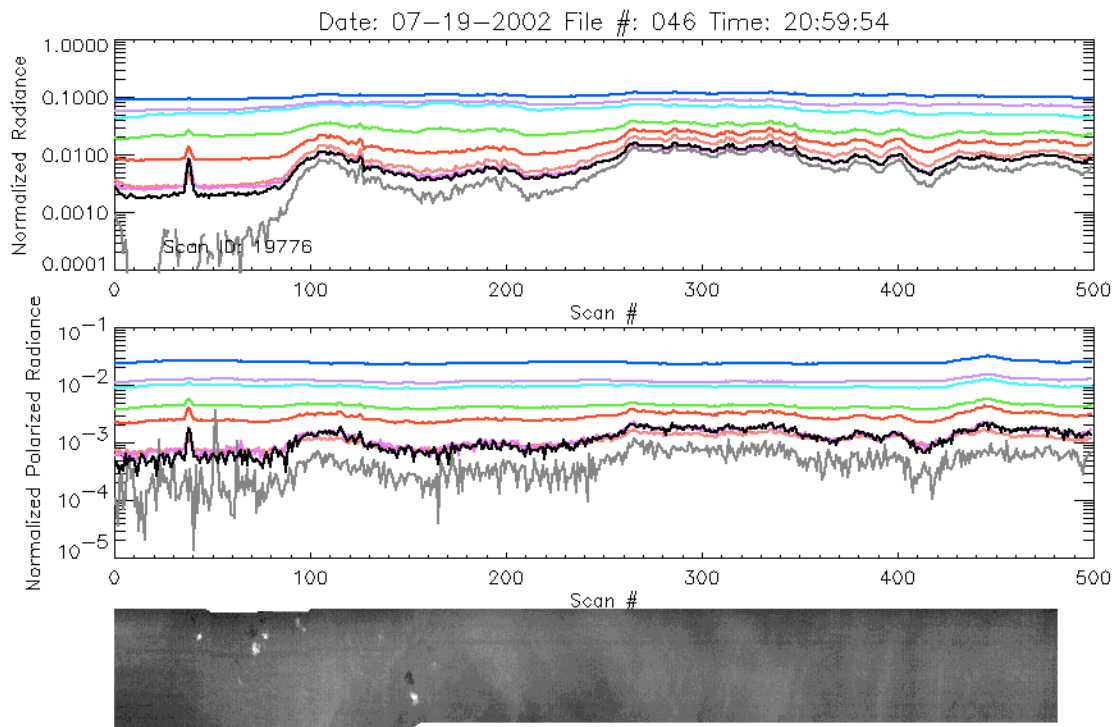


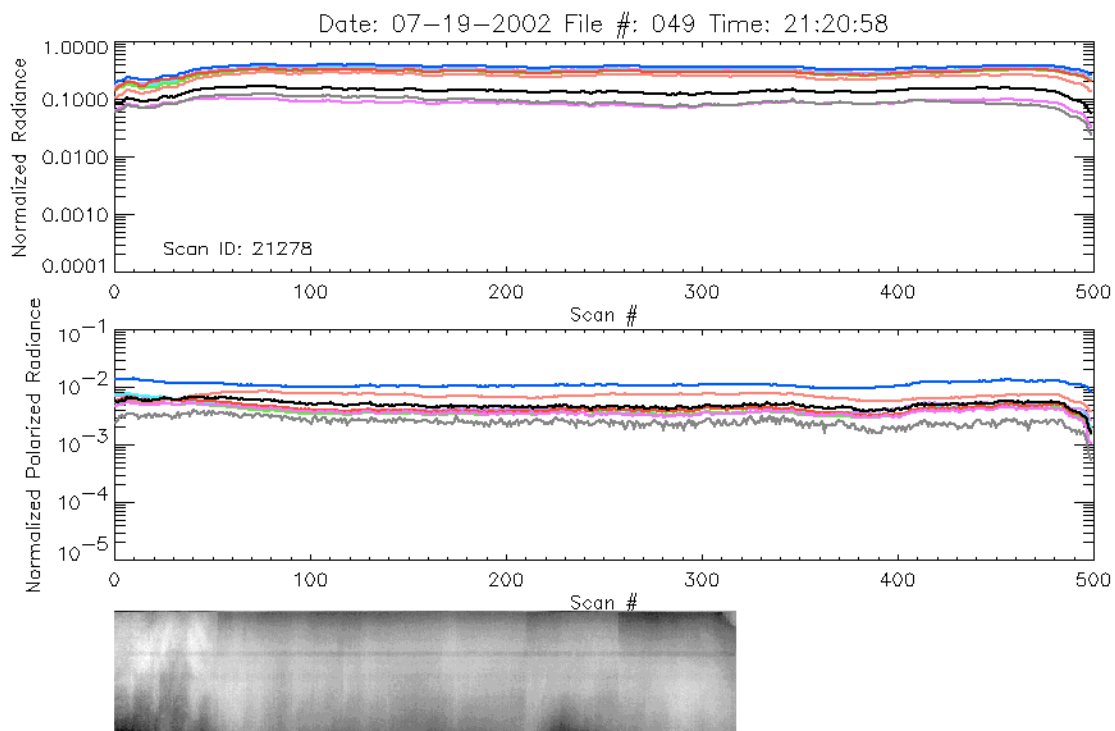
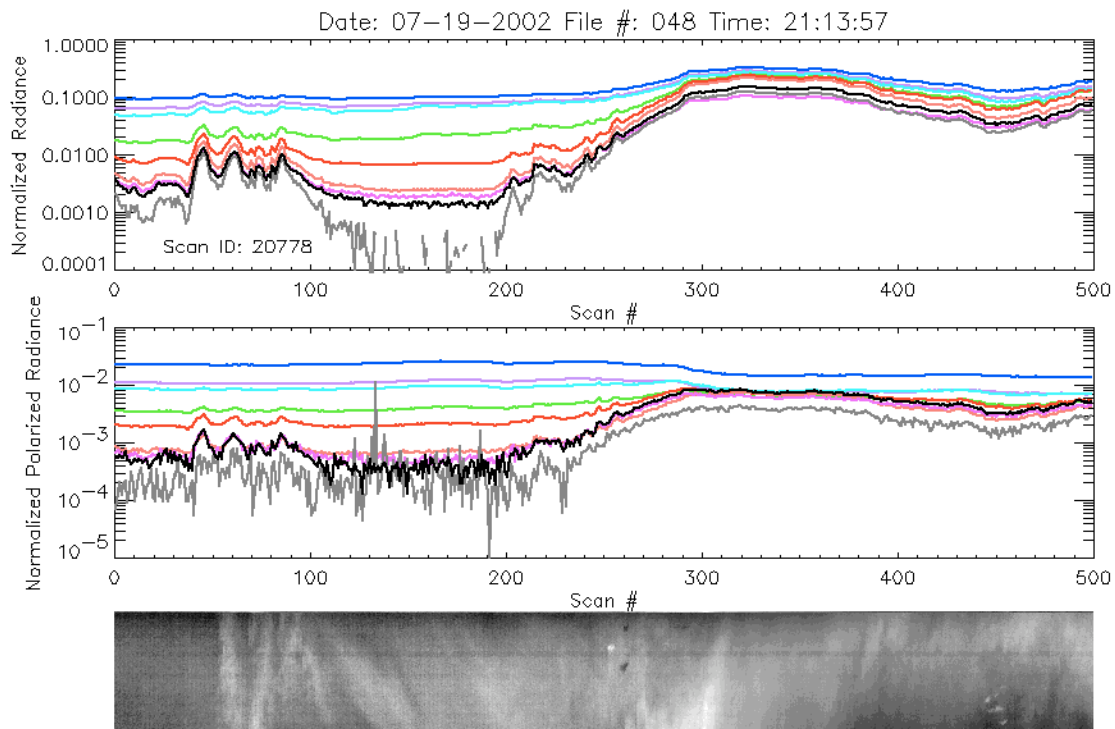


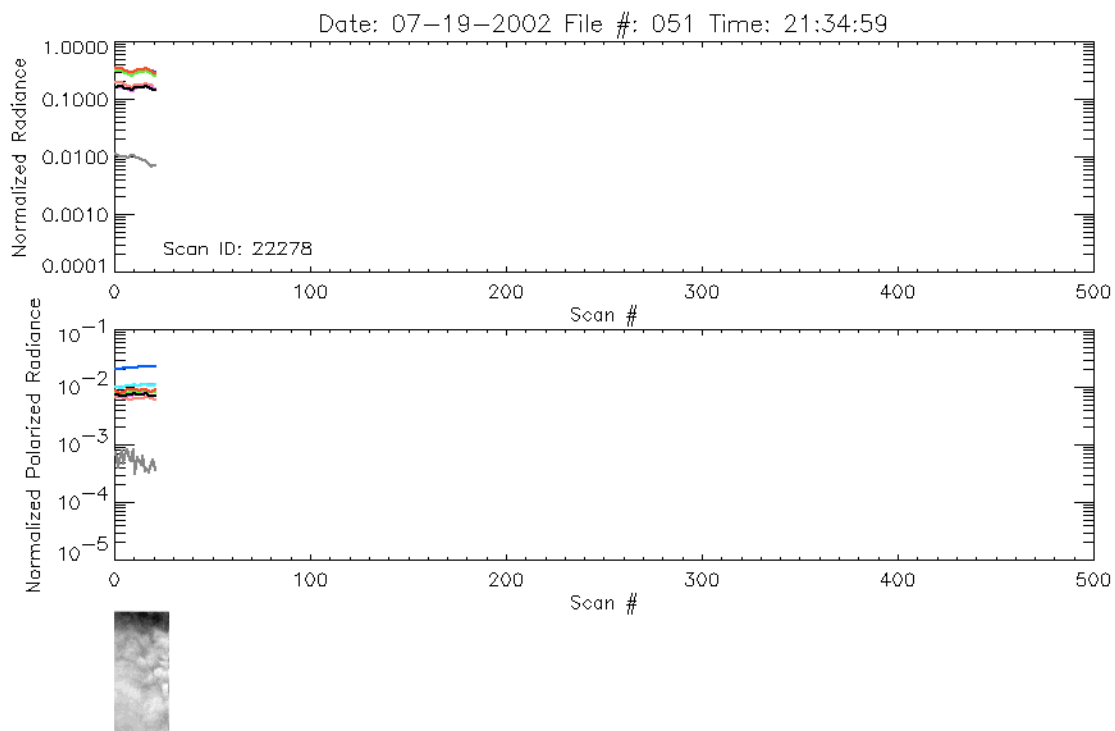
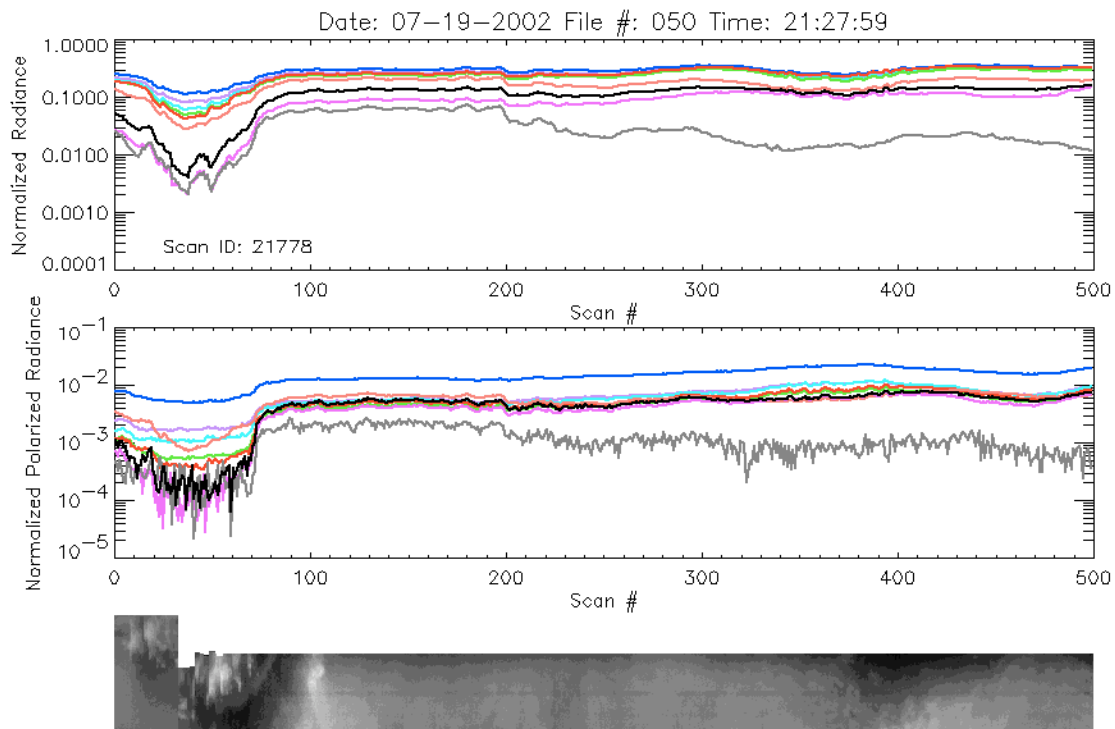


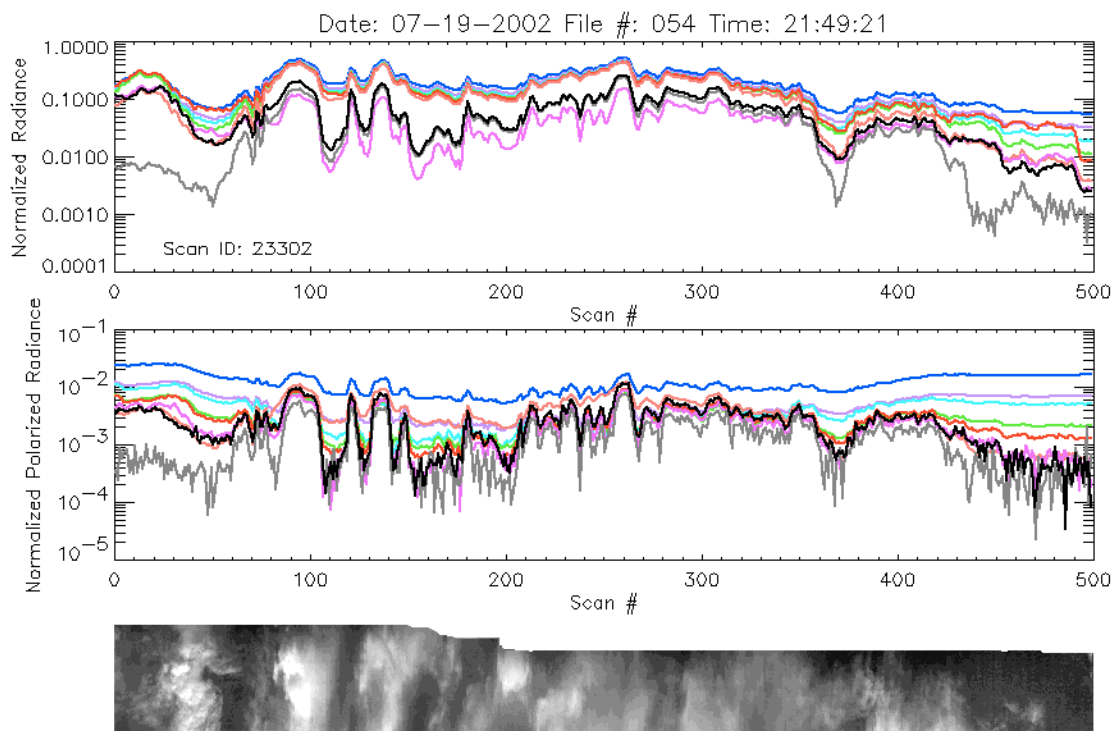
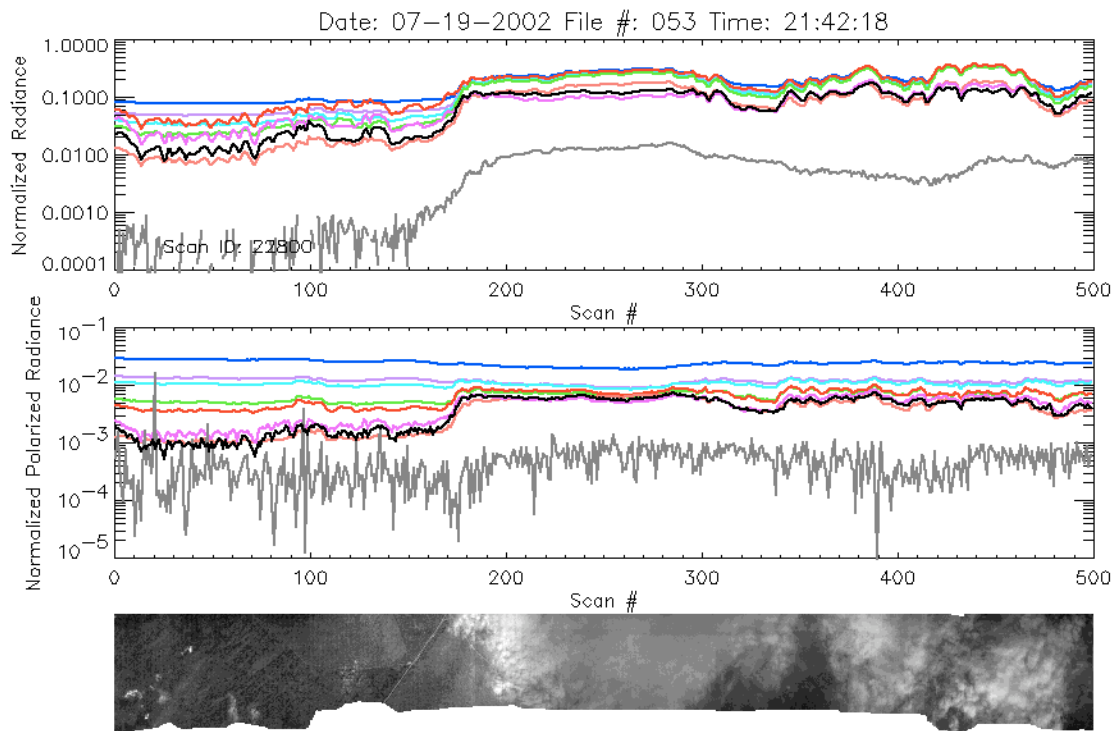


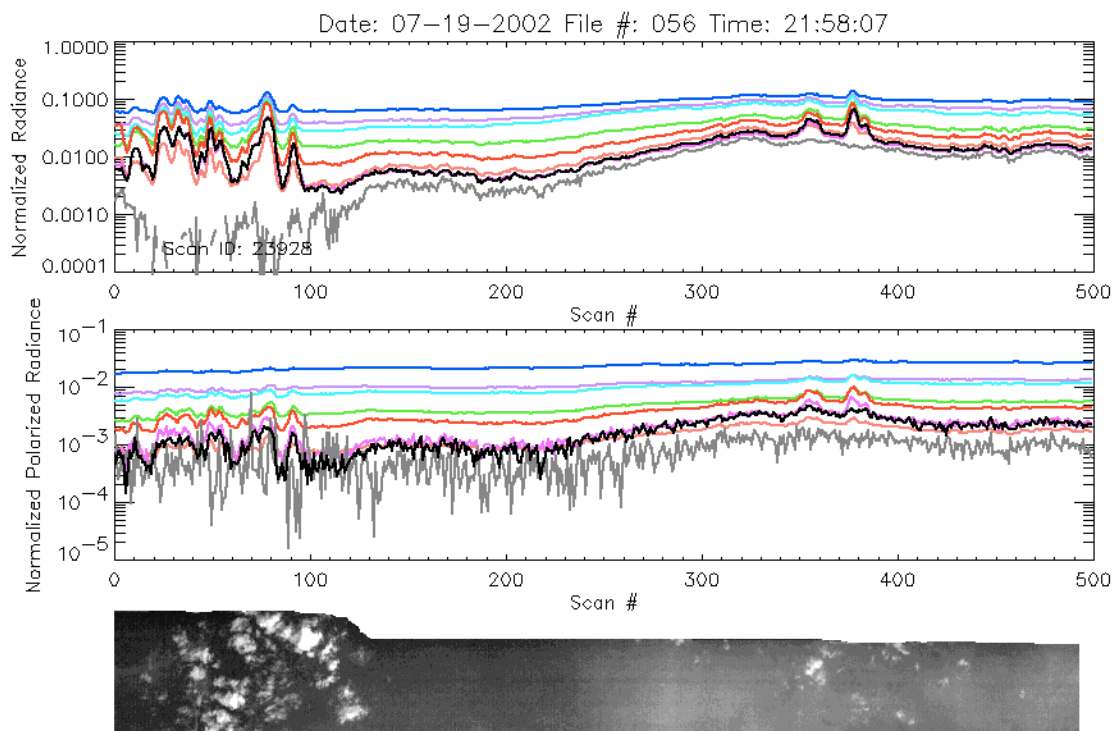
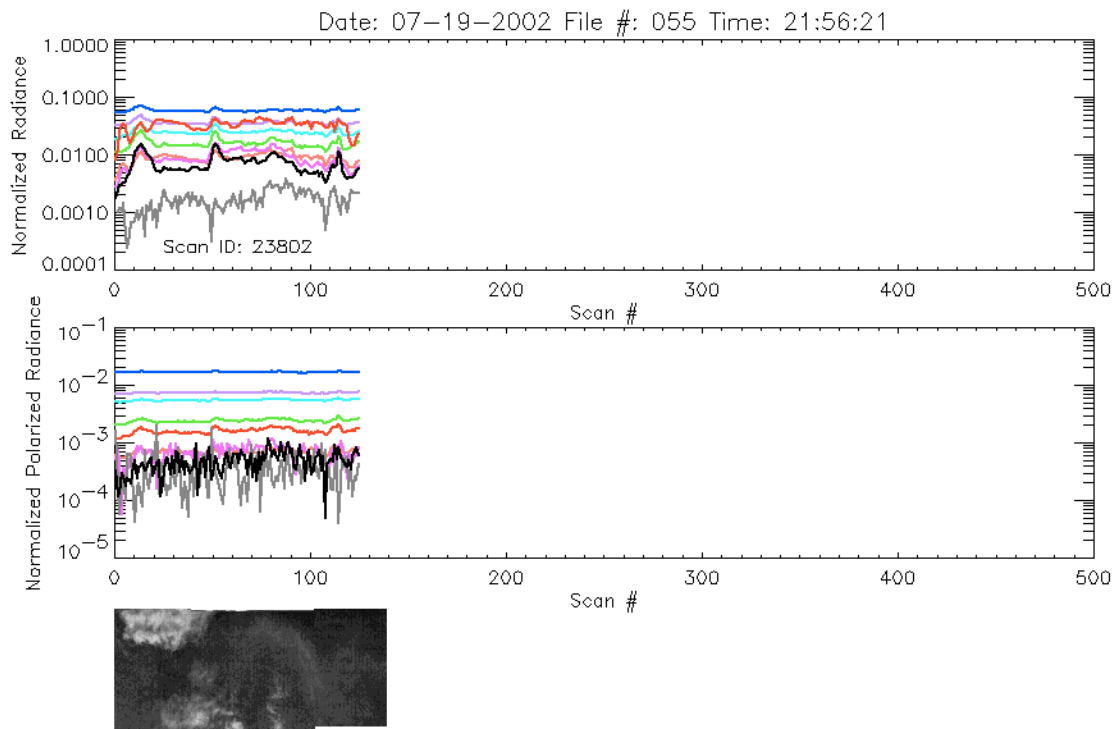




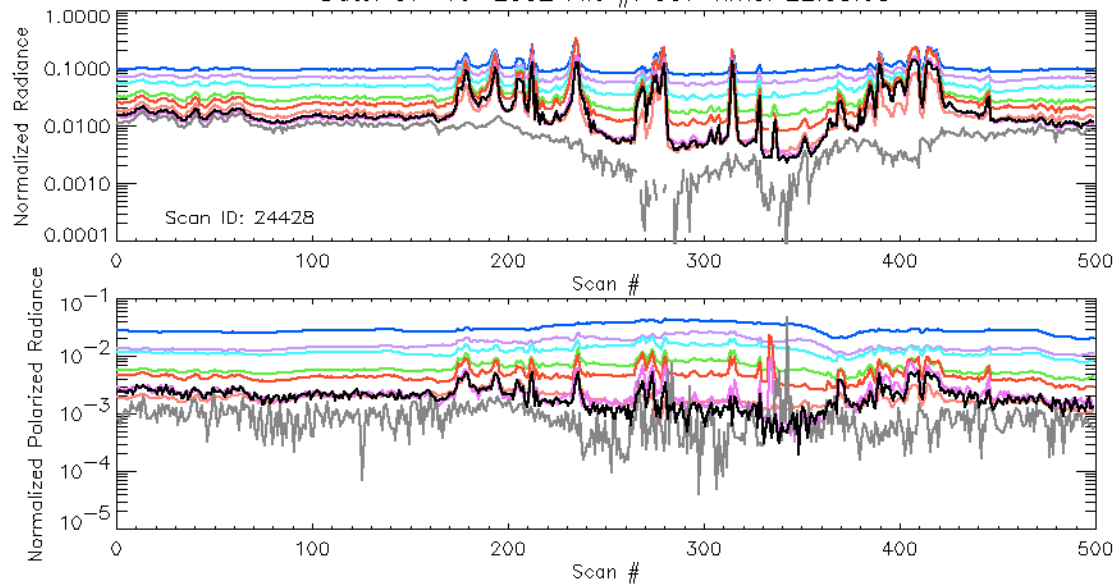




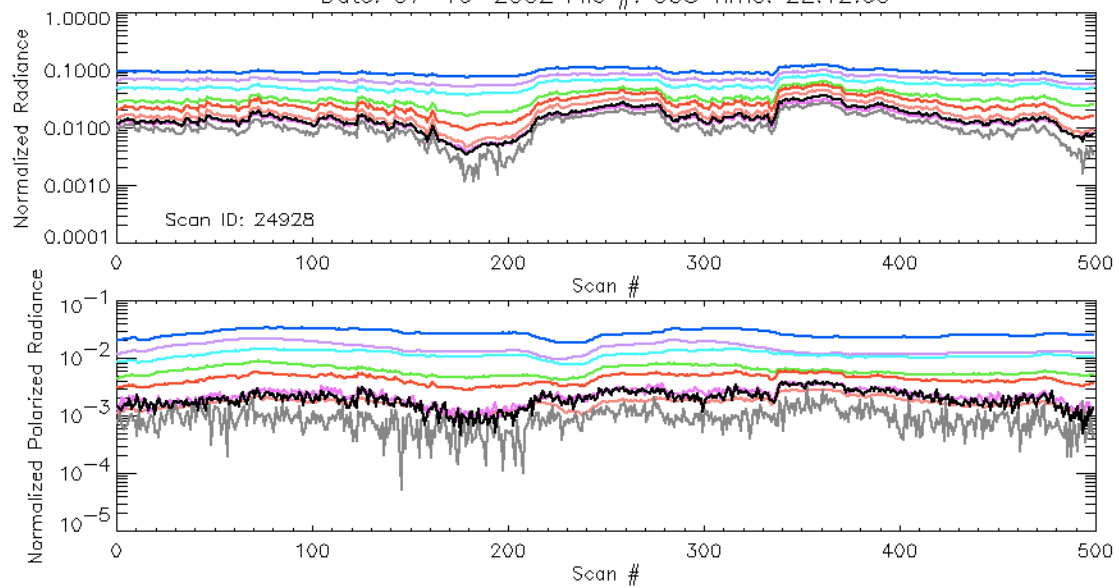


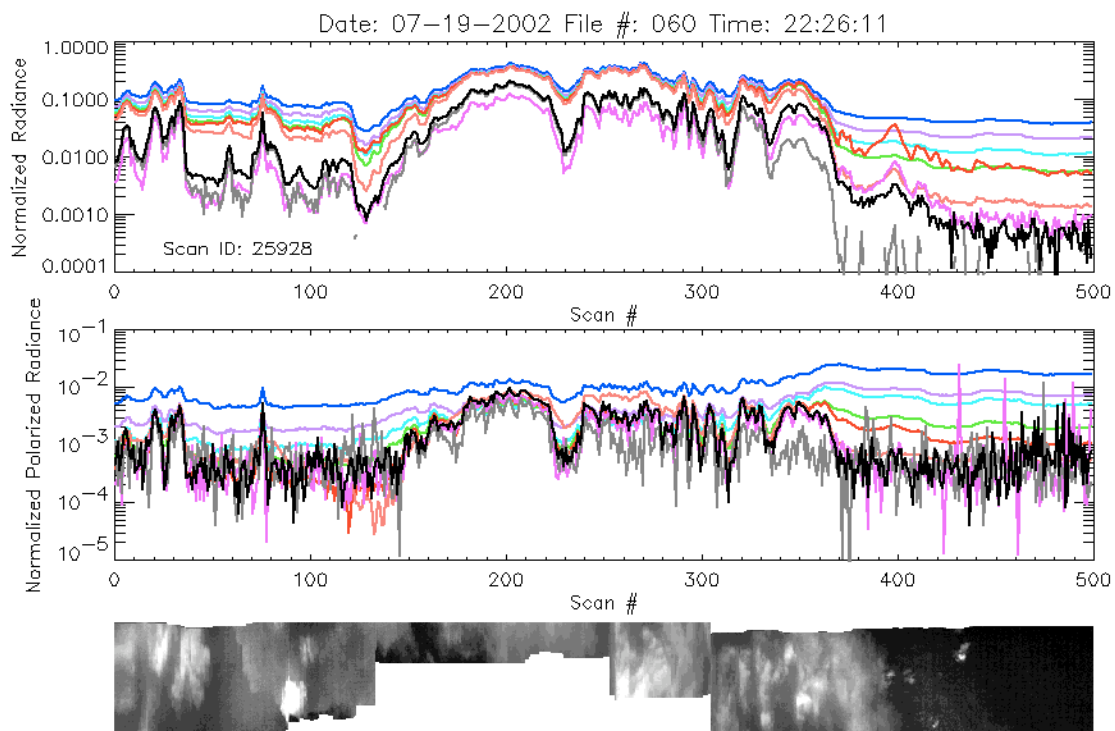
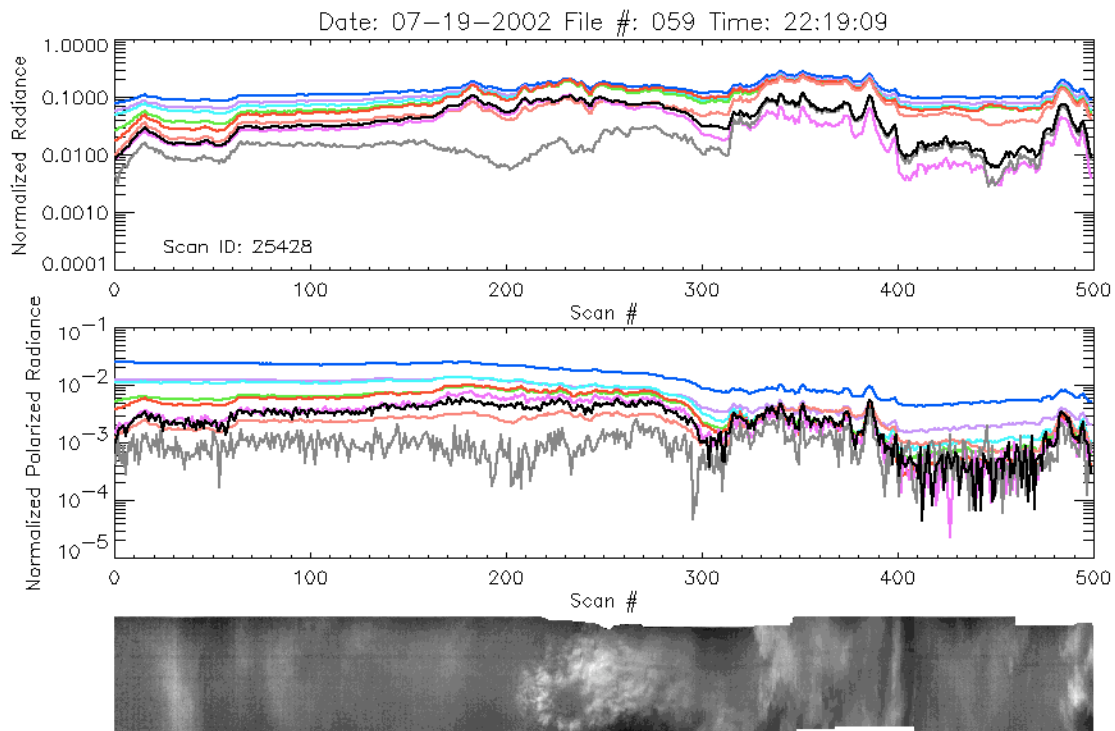


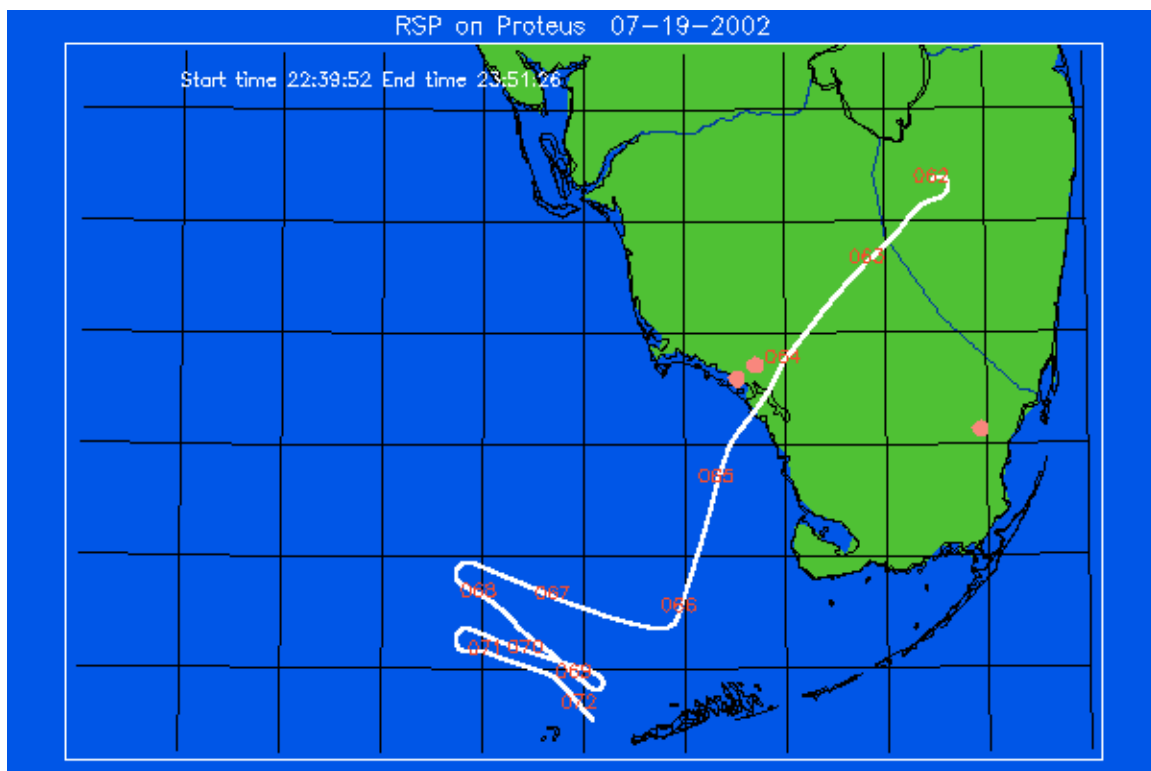
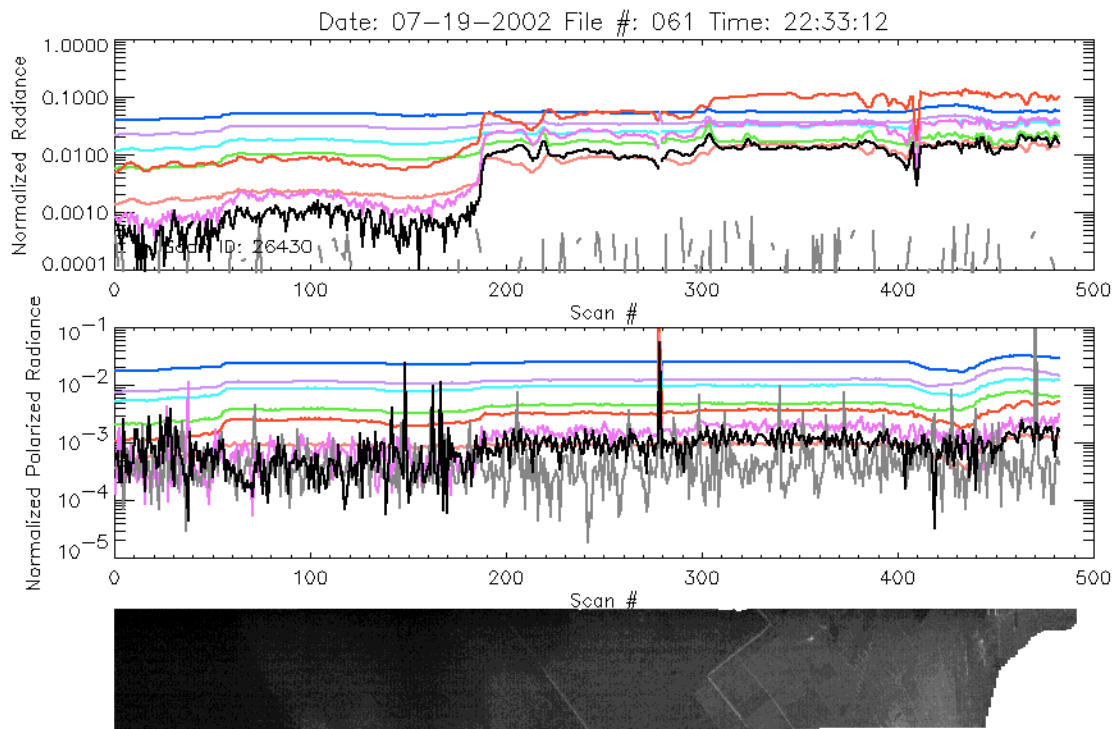
Date: 07-19-2002 File #: 057 Time: 22:05:08

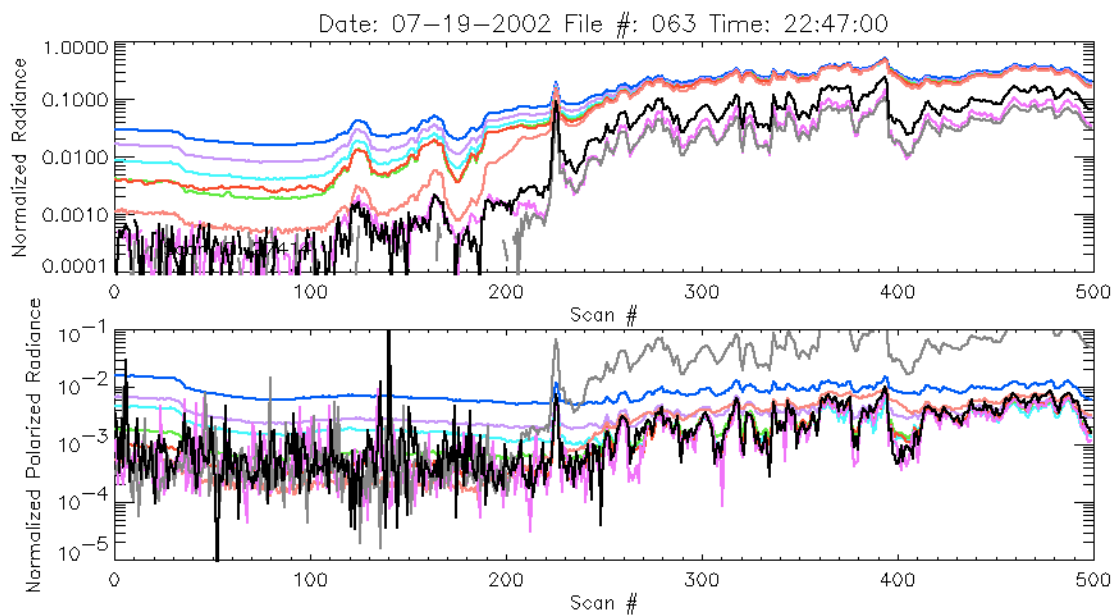
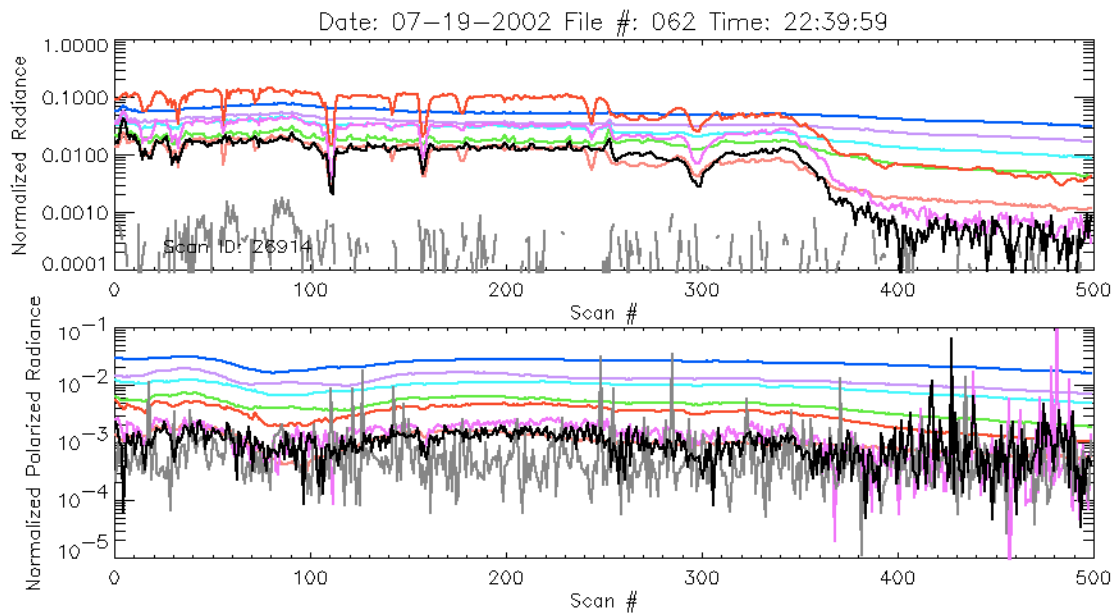


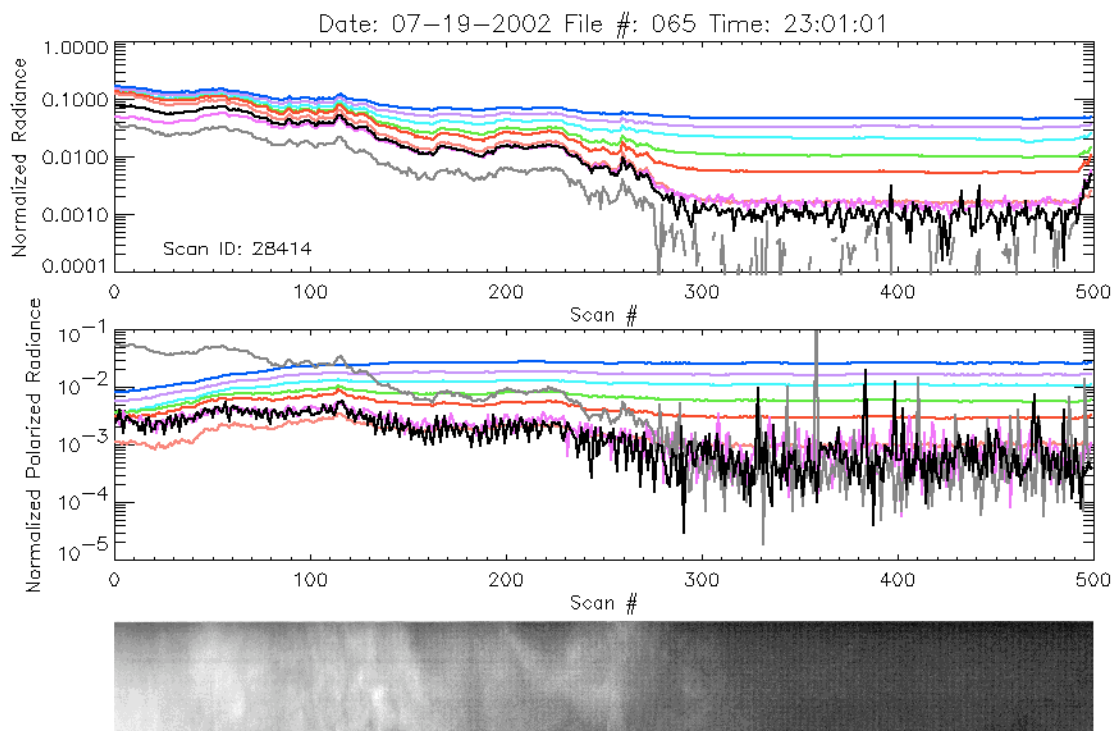
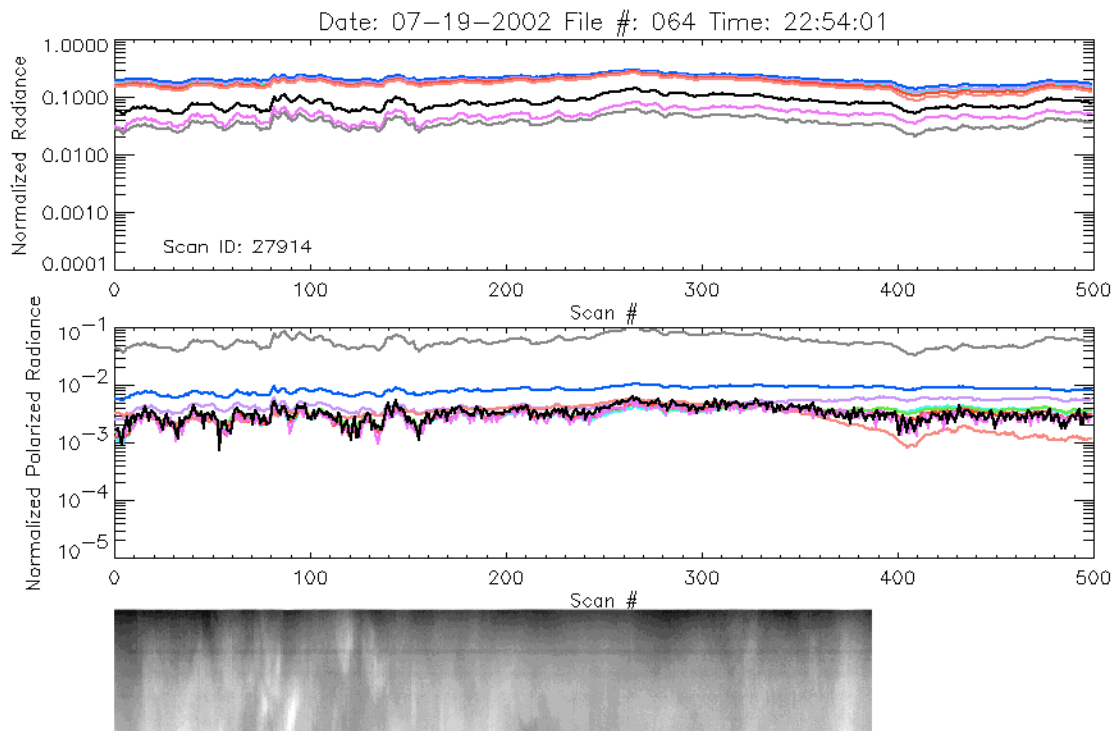
Date: 07-19-2002 File #: 058 Time: 22:12:09



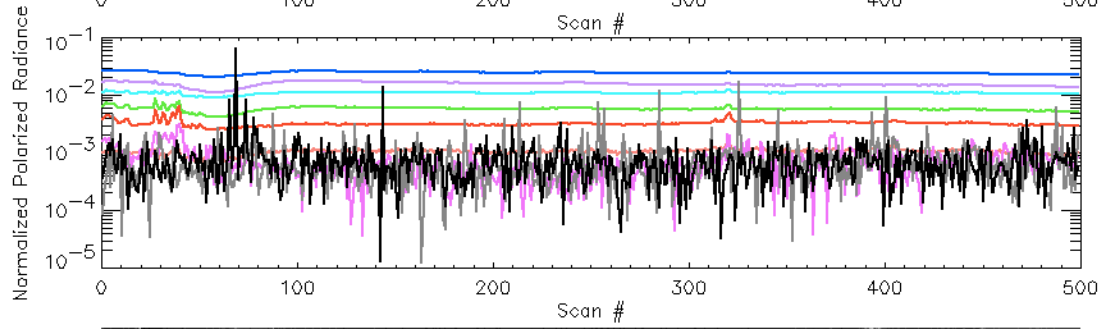
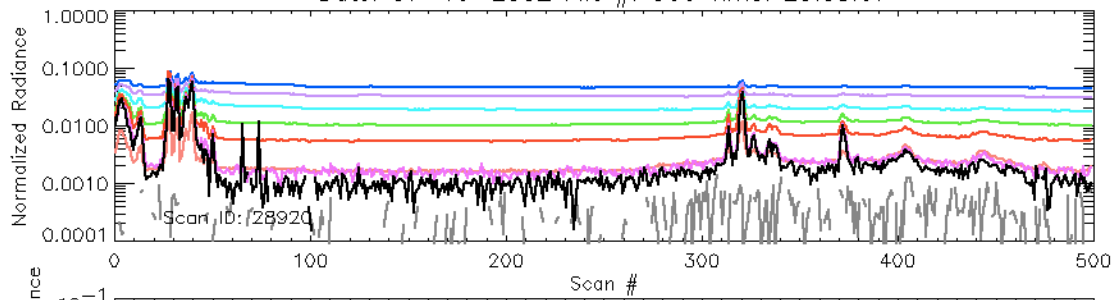




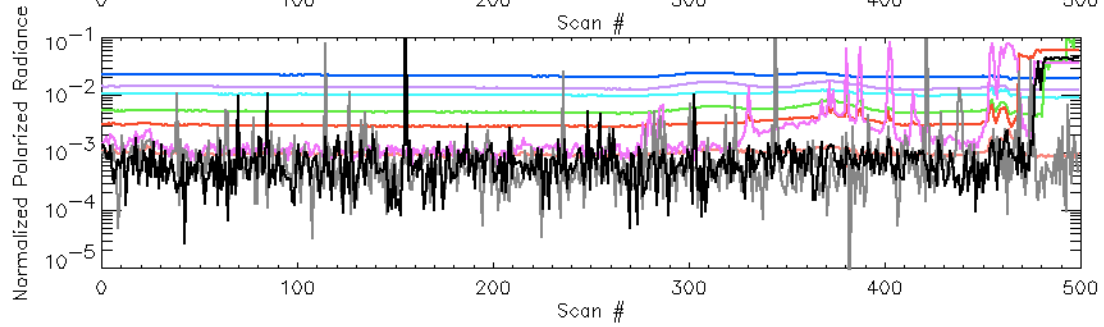
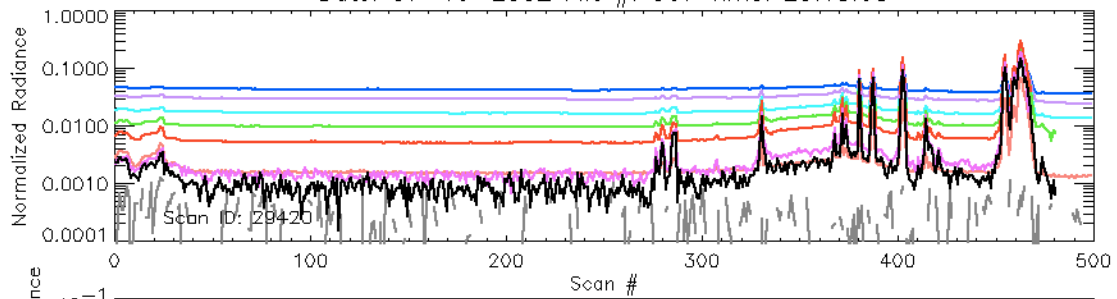




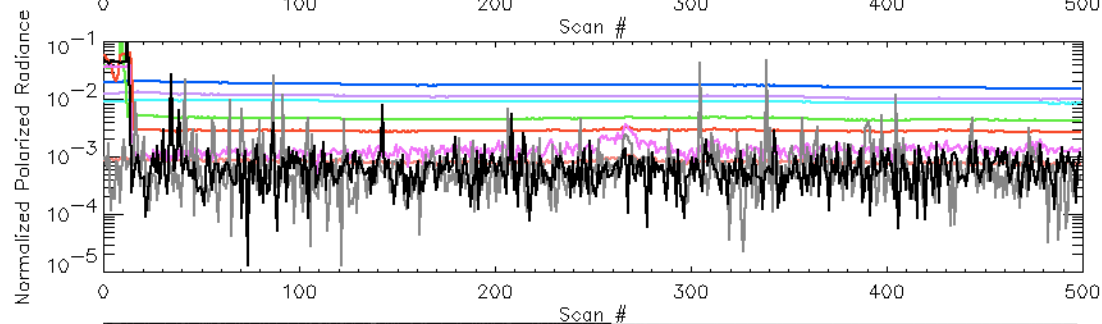
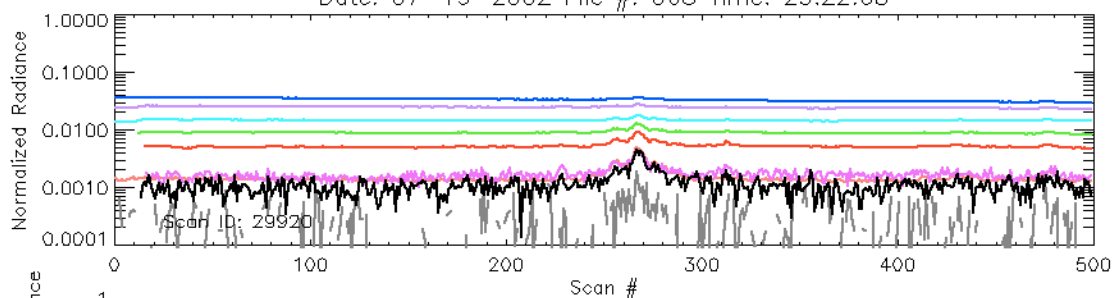
Date: 07-19-2002 File #: 066 Time: 23:08:07



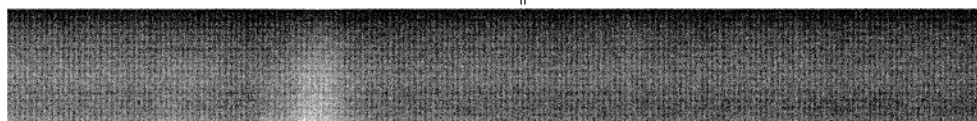
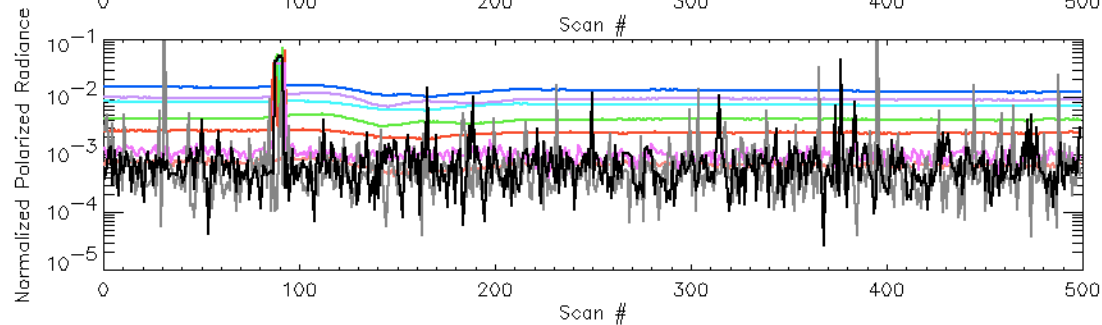
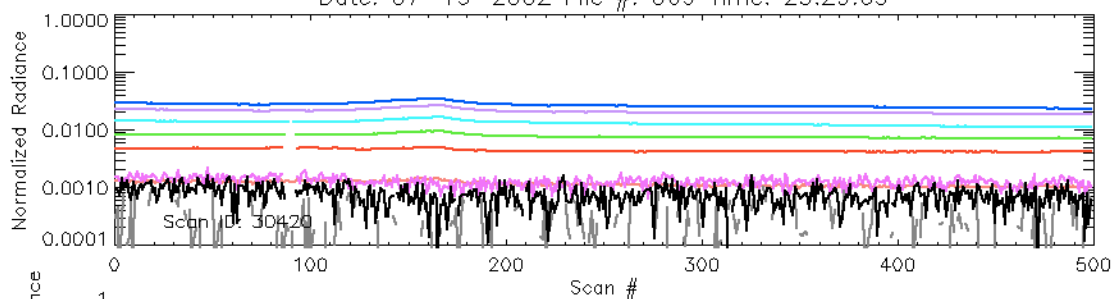
Date: 07-19-2002 File #: 067 Time: 23:15:08



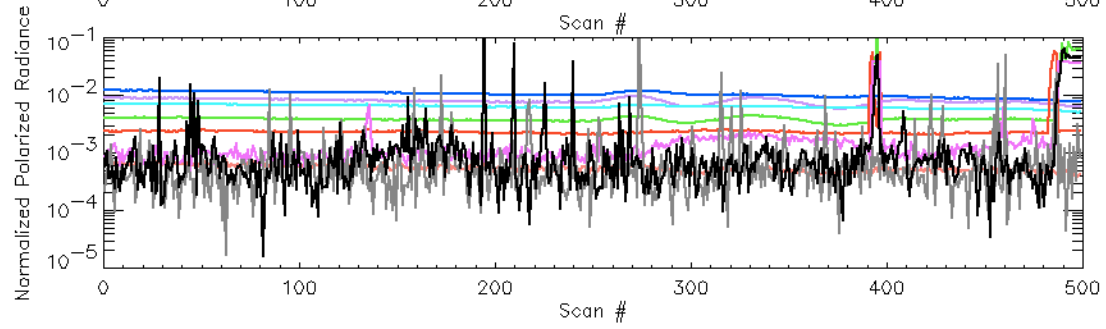
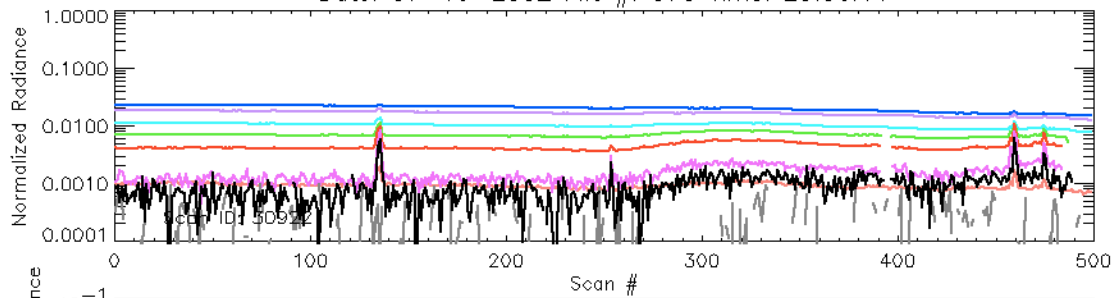
Date: 07-19-2002 File #: 068 Time: 23:22:08



Date: 07-19-2002 File #: 069 Time: 23:29:09



Date: 07-19-2002 File #: 070 Time: 23:36:11



Date: 07-19-2002 File #: 071 Time: 23:43:15

